

**FAIRFAX COUNTY COMPREHENSIVE TRANSIT PLAN  
AND TRANSIT DEVELOPMENT PLAN UPDATE**

**Technical Memorandum**

**I. Fairfax Connector Operations Analysis**

*August 2014*

*Prepared for:*

**Fairfax County Department of Transportation**

*By:*



and





---

## Table of Contents

### I. Fairfax Connector Operations Analysis

I.1	Introduction.....	I-1
I.2	The System at a Glance .....	I-2
I.3	Basic Line Characteristics.....	I-13
I.3.1.	Service Supplied.....	I-13
I.3.2.	Service Operating Characteristics .....	I-28
I.4	Service Performance.....	I-42
I.4.1.	Service Consumption and Financial Statistics.....	I-42
I.4.2.	Service Effectiveness Measures .....	I-49

---

## List of Tables

Table I-1: Comparison of Fairfax Connector Service Characteristics by Service Area .....	I-6
Table I-2: Fairfax Connector Route Categories by Service Area .....	I-6
Table I-3: Fairfax Connector Bus Routes .....	I-8
Table I-4: Fairfax Connector Annual Service Provided .....	I-15
Table I-5: Fairfax Connector Weekday Service Provided .....	I-19
Table I-6: Fairfax Connector Saturday Service Provided .....	I-23
Table I-7: Fairfax Connector Sunday Service Provided .....	I-25
Table I-8: Fairfax Connector Revenue Vehicles Statistics .....	I-27
Table I-9: Fairfax Connector Revenue Fleet .....	I-27
Table I-10: Fairfax Connector Headways by Time Period .....	I-29
Table I-11: Fairfax Connector Routes by Operating Period .....	I-35
Table I-12: Fairfax Connector Operating Characteristics (Weekday) .....	I-37
Table I-13: Fairfax Connector Operating Characteristics (Saturday) .....	I-40
Table I-14: Fairfax Connector Operating Characteristics (Sunday) .....	I-41
Table I-15: Fairfax Connector Ridership and Financial Statistics (Annual) .....	I-43
Table I-16: Fairfax Connector Route Ridership and Financial Statistics (Weekday) .....	I-45
Table I-17: Fairfax Connector Route Ridership and Financial Statistics (Saturday) .....	I-47
Table I-18: Fairfax Connector Route Ridership and Financial Statistics (Sunday) .....	I-48
Table I-19: Fairfax Connector Route Productivity Statistics (Annual) .....	I-50
Table I-20: Fairfax Connector Route Productivity Statistics (Weekday) .....	I-52
Table I-21: Fairfax Connector Route Productivity Statistics (Saturday) .....	I-54
Table I-22: Fairfax Connector Route Productivity Statistics (Sunday) .....	I-55

## List of Figures

Figure I-1: Fairfax Connector System Map (South Service Area) .....	I-3
Figure I-2: Fairfax Connector System Map (West Service Area) .....	I-4
Figure I-3: Fairfax Connector System Map (North Service Area) .....	I-5
Figure I-4: Enhanced Public Transportation Corridors and Priority Corridor Network .....	I-12
Figure I-5: Fairfax Connector Routes by Peak Period Headway .....	I-30
Figure I-6: Fairfax Connector Peak Headway .....	I-31
Figure I-7: Fairfax Connector Routes by Midday Period Headway .....	I-32
Figure I-8: Fairfax Connector Routes by Evening Period Headway .....	I-32
Figure I-9: Fairfax Connector Midday Headway .....	I-33
Figure I-10: Fairfax Connector Evening Headway .....	I-34
Figure I-11: Fairfax Connector Routes by Operating Period .....	I-35
Figure I-12: Fairfax Connector Operating Periods .....	I-36
Figure I-13: Weekday Passengers per Revenue Mile for South and West Service Areas .....	I-56
Figure I-14: Saturday Passengers per Revenue Mile for South and West Service Areas .....	I-57
Figure I-15: Sunday Passengers per Revenue Mile for South and West Service Areas .....	I-58
Figure I-16: Weekday Passengers per Revenue Hour for South and West Service Areas .....	I-59
Figure I-17: Saturday Passengers per Revenue Hour for South and West Service Areas .....	I-60
Figure I-18: Sunday Passengers per Revenue Hour for South and West Service Areas .....	I-61
Figure I-19: Weekday Passengers per Trip for South and West Service Areas .....	I-62
Figure I-20: Saturday Passengers per Trip for South and West Service Areas .....	I-63
Figure I-21: Sunday Passengers per Trip for South and West Service Areas .....	I-64

---

## 1.1 Introduction

Fairfax County provides a locally owned and controlled fixed-route bus transit system called Fairfax Connector (Connector). In addition to Fairfax Connector, the Washington Metropolitan Area Transit Authority (WMATA) provides approximately 45 percent of the total bus service revenue hours in the County through Metrobus. Metrobus service is regionally focused, providing service across county lines, while Connector service is non-regional in nature and operates largely within the County boundaries. The County initiated the Fairfax Connector in September 1985 as a County-sponsored, cost-effective alternative to the provision of non-regional fixed-route/fixed-schedule bus service by WMATA, and significant expansion of the system has occurred since then.

Based on the American Public Transportation Association's ranking of 2010 National Transit Database data, Fairfax Connector service ranks 100<sup>th</sup> nationally in unlinked passenger trips, 90<sup>th</sup> in annual vehicle revenue hours, and 118<sup>th</sup> in vehicles operated during maximum service. When comparing these indicators across systems within the Commonwealth of Virginia, Fairfax Connector places third behind Hampton Roads Transit and Greater Richmond Transit Company. All Fairfax County service combined (Fairfax Connector and Metrobus) would rank much closer to the top-two Virginian systems, both of which are regional in scope.

This Technical Memorandum, in Section 1.2, provides an overview of the Fairfax Connector bus network, its three service areas, and the various types of routes provided. Section 1.3 describes the basic line characteristics of each route, such as the revenue-hours and revenue-miles of service provided, both on an annual basis and for the weekday, Saturday and Sunday schedules. That section also presents and categorizes each route by both the frequency of service during each time period and the span of service and days of the week on which service is provided. Finally, Section 1.4 presents the current performance of each route, both in terms of ridership attracted and in terms of performance measures such as cost per passenger and passengers per revenue-hour and per revenue-mile.

Because this memorandum is intended to set the stage for further analysis of services under the process to develop the Comprehensive Transit Plan, it is focused on Connector service as it will be once the changes associated with opening of the Metrorail Silver Line have been implemented. All the basic line characteristics are presented here for the network as it will be once those changes are implemented. As a result, ridership levels consistent with those line characteristics are not yet available. Therefore, performance measures based on ridership can only be presented here for the portion of the network that will not be changing. A separate analysis of performance of the modified routes will be conducted once those changes have been in place for approximately three to six months.

---

## I.2 The System at a Glance

The Fairfax Connector system consists of 84 routes that provide over 650,000 revenue hours annually, representing 55 percent of the total bus service in the County. On an average weekday, the system carries nearly 40,000 passengers on its 270 buses.<sup>1</sup> Fairfax Connector's available revenue vehicle fleet consists of 30-, 35- and 40-foot heavy-duty transit buses, all of which are owned by the County. The service, including the hiring and training of drivers and the maintenance of vehicles, is operated under contract with a private firm. Fairfax Connector buses operate within Fairfax County (including the Towns of Vienna and Herndon), and also provide commuter service to and from Arlington County (Crystal City and Pentagon).

There are three distinct service areas within the Fairfax Connector system, as shown in Figure I-1, Figure I-2, and Figure I-3. Fairfax Connector's South County Service Area operates in the southeastern portion of the county with 29 routes and 107 weekday peak vehicles; the majority of the South County routes operate out of the Huntington bus garage. The West County Service Area operates in the middle and western portion of the county with 14 routes and 26 weekday peak vehicles; West County routes operate out of the West Ox garage. The North County Service Area will be changing significantly in 2014 with the opening of Phase I of the Metrorail Silver Line, which will expand Metrorail access to the Tysons/McLean area and the Reston area. Once the Silver Line opens the North County Service Area will operate 41 routes and 86 weekday peak vehicles; North County routes operate out of the Herndon and West Ox garages. The bus system serves most residential and commercial areas within Fairfax County, however service does not extend to the lowest-density residential areas of the county, which are often high-income.

For the purpose of this technical memorandum on operations analysis, data is analyzed by service area. For the South County Service Area (South) and the West County Service Area (West) data was provided by Fairfax County for FY 2013, the period of July 1, 2012 to June 30, 2013. The data presented for North County Service Area (North) represents the service that will be in place when the Silver Line opens. The operations data, identified by service area, is tabulated as route-by-route annual totals, daily weekday averages, and Saturday and Sunday daily averages for each operational measure. There are 255 days classified as weekdays by Fairfax Connector within a year, 53 days classified as Saturdays, and 57 days classified as Sundays within a year. The "extra" Saturday and Sundays are holidays that fall on calendar weekdays but receive Saturday or Sunday levels of service. Ridership data is provided only for South and West County routes as North County ridership is expected to change significantly once service is reconfigured with the opening of the Silver Line Metrorail.

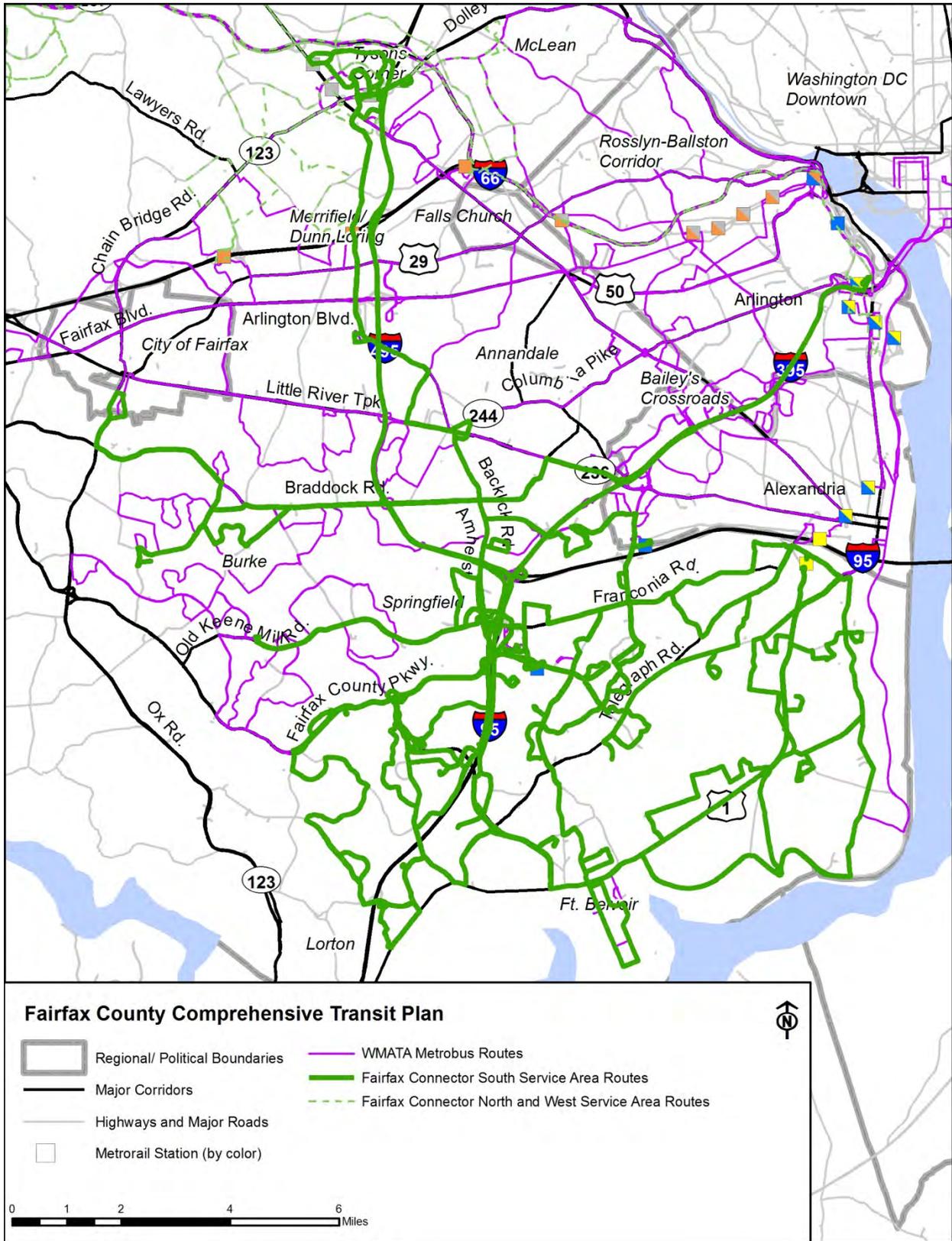
Each of the three service areas within the Fairfax Connector system provides a distinct pattern of service that has been tailored over time to the portion of the County that each covers. Table I-1 shows the distribution of service provided by service area. Table I-2 details the types of routes operated within each service area. The service type definitions are based on the following classifications:

- **Local Routes:** service focused on providing connectivity within and between activity centers in Fairfax County.
- **Express Routes:** service focused on long trips delivering commuters directly to high-employment areas without making regular stops over the trunk of the route.

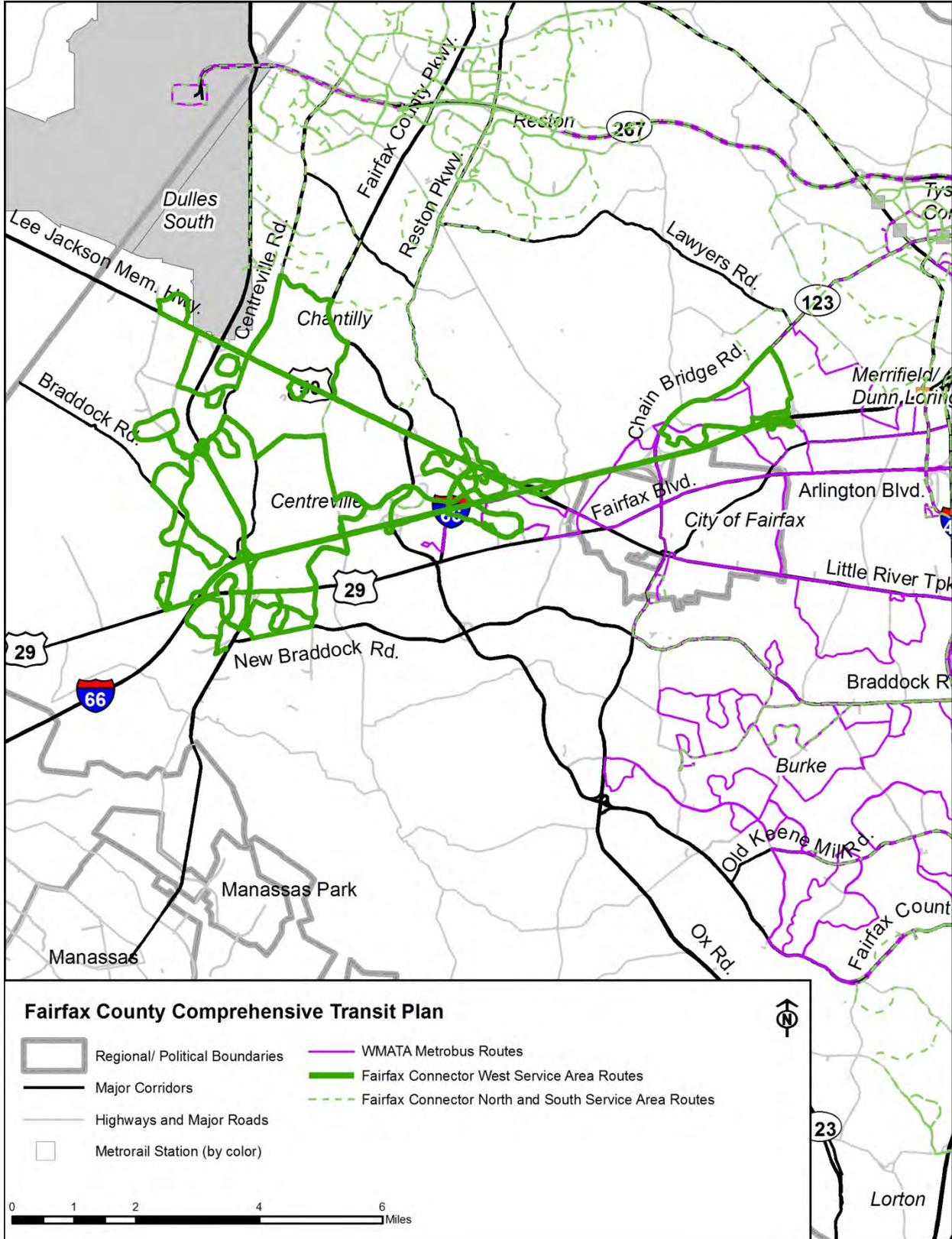
---

<sup>1</sup> Data provided by Fairfax County: July 1 2012 – July 30, 2013

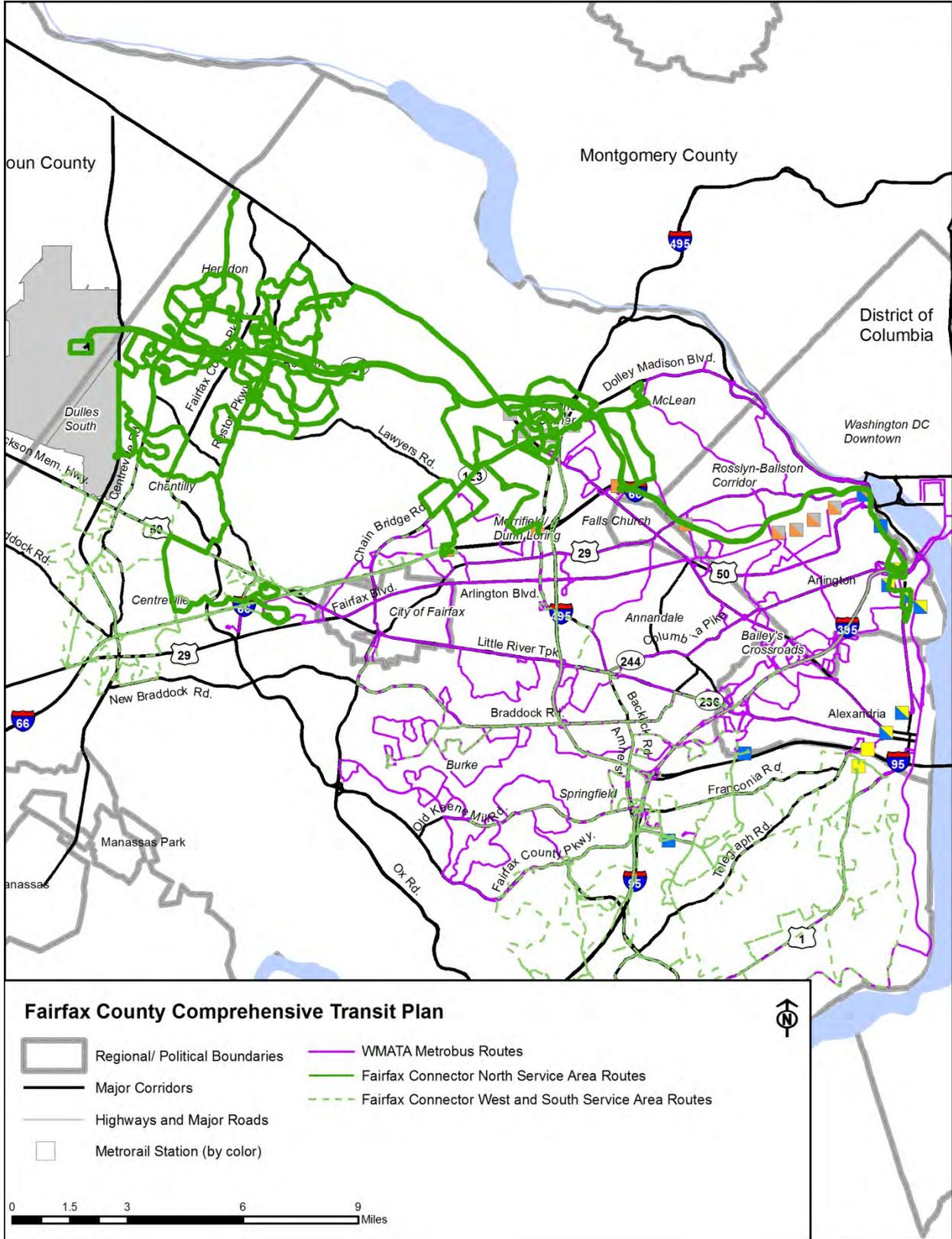
**Figure I-1: Fairfax Connector System Map (South Service Area)**



**Figure I-2: Fairfax Connector System Map (West Service Area)**



**Figure I-3: Fairfax Connector System Map (North Service Area)**



**Table I-1: Comparison of Fairfax Connector Service Characteristics by Service Area**

Service Area	Percentage of Systemwide Service			Average Trip Length
	Revenue Miles	Revenue Hours	Trips	
South	50.6%	53.7%	36.1%	14.6 mi.
West	11.6%	9.1%	8.6%	14.1 mi.
North	37.8%	37.2%	55.3%	7.1 mi.
<b>AVERAGE:</b>				<b>10.5 mi.</b>

Data for Fiscal Year 2013

**Table I-2: Fairfax Connector Route Categories by Service Area**

Service Area	# of Routes by Service Type					TOTALS
	Local	Express	Circulator	Feeder/ Distributor	Special	
South	19	6	1	3		29
West	4			10		14
North*	4	2	15	19	1	41
<b>TOTALS</b>	<b>27</b>	<b>8</b>	<b>16</b>	<b>32</b>	<b>1</b>	<b>84</b>

\* Data reflects service changes effective with the opening of the Silver Line

- **Circulator Routes:** service that provides connections within activity centers between trunk transit lines and ridership generators.
- **Feeder/Distributor Routes:** weekday peak-hour service linking residential areas to Metrorail stations (feeder) and Metrorail stations to employment centers (distributor).
- **Special Routes:** only one route in Fairfax County, the Wolf Trap Express.

The South Service Area covers the widest geographic area, and is characterized by lengthier routes and more comprehensive service area coverage than the other two service areas. Despite operating only 29 routes compared to the 41 operated out of the North Service Area, South County service totals the most revenue miles (4.8M, 50.6% of system total) and revenue hours (349,000, 53.7% of system total) of any of the three service areas. The South’s service area has the greatest overlap with Metrobus routes, and as such much of the feeder-type service is covered by Metrobus. A large majority of the South Service Area routes (19 of 29) are categorized as local routes, which connect activity centers within the southern portion of the county and provide connections not covered by Metrobus regional routes. The South Service Area operates six of the eight Fairfax Connector routes categorized as express service.

---

The West Service Area provides the only 11.6% of systemwide revenue miles and 9.1% of revenue hours annually, although like the South Service Area its service is characterized by lengthy trips. Most of the routes operated out of the West Service Area (10 of 14) are feeder/distributor routes, indicating that the primary focus of service in the West County is to support Metrorail and provide commuting options.

The North Service Area will begin a new service plan with the opening of the Metrorail Silver Line, and at that time will be heavily concentrated on feeder/distributor (19 of 41 routes) and circulator (15 of 41 routes) service. As the North Service Area features the most concentrated activity centers in the County (Tysons, Reston, and Herndon), it is not surprising that so much circulator and distributor service is planned. With relatively little Metrobus service in this portion of the County, it is natural that a large proportion of North County service is feeder type service. As a result of this pattern, the North Service Area is characterized by significantly shorter trips on average than the other two service areas.

Table I-3 provides a broad overview of each route, including magisterial district(s) served. Fairfax County contains nine magisterial districts that are defined by the United States Census Bureau as a minor civil division that are not governments. Fairfax Connector is overseen by the County Board of Supervisors, comprising a representative from each of the magisterial districts, plus an at-large Chair.

The table also shows whether each route serves a corridor that is part of an Enhanced Public Transportation Corridor (EPTC) or part of the WMATA Priority Corridor Network (PCN). Figure I-4 shows the EPTC and PCN networks in detail. The EPTC network was identified in Fairfax County's Comprehensive Plan and is defined as road corridors that should receive major public transportation facilities such as rail transit, bus transfer stations, bus priority lanes, and/or high occupancy vehicle lanes. WMATA's PCN is a strategy to improve bus service by improving bus service travel times, reliability, capacity, productivity and system access along 23 corridors across the Washington region.

**Table I-3: Fairfax Connector Bus Routes**

**South**

Number	Name	Service Type	Magisterial District	EPTC	WMATA PCN
101	Fort Hunt Road - Mount Vernon	Local	Mt. Vernon	No	No
109	Rose Hill	Local	Lee, Mt. Vernon	No	No
151	Woodlawn	Local	Mt. Vernon	Route I	Richmond Hwy
152	Groveton - Mount Vernon	Local	Mt. Vernon	Route I	Richmond Hwy
159	Engleside Limited Stop	Express	Lee, Mt. Vernon	Route I	Richmond Hwy
161	Hybla Valley Counter-Clockwise	Local	Lee, Mt. Vernon	Route I	Richmond Hwy
162	Hybla Valley Clockwise	Local	Lee, Mt. Vernon	Route I	Richmond Hwy
171	Richmond Highway	Local	Mt. Vernon	Route I	Richmond Hwy
231	Kingstowne Counter-Clockwise	Local	Lee	No	No
232	Kingstowne Clockwise	Local	Lee	No	No
301	Telegraph Road Line	Local	Lee, Mt. Vernon	No	No
305	Newington Forest - Silverbrook Road	Local	Lee, Springfield, Mt. Vernon	Fairfax County Pkwy	No
306	GMU - Pentagon	Local	Mason, Braddock	I-395	Little River Turnpike
310	Franconia Road – Rolling Valley	Local	Lee, Springfield	No	No
321	Springfield Counter-Clockwise	Local	Mt. Vernon, Lee	No	No
322	Springfield Clockwise	Local	Mt. Vernon	No	No
333	Patriot Ridge - Saratoga Line	Local	Lee, Springfield, Mt. Vernon	Fairfax County Pkwy	No
334	DLA Circulator	Circulator	Mt. Vernon, Lee	Springfield to Ft Belvoir	No
335	Fort Belvoir Eagle Express	Express	Mt. Vernon, Lee	No	No
371	Lorton-Franconia Springfield Metro	Feeder	Mt. Vernon, Lee	No	No
372	Lorton-Alban Rd	Feeder	Mt. Vernon, Lee	No	No
373	Lorton-Fullerton Rd	Feeder	Mt. Vernon, Lee	No	No
394	Saratoga-Pentagon Express	Express	Lee, Springfield, Mt. Vernon	I-95/Fairfax County Pkwy	No
395	Pentagon - Gambrill Road	Local	Springfield, Lee, Mason	I-95/Fairfax County Pkwy	No
401	Backlick-Gallows Road Northbound	Local	Lee, Braddock, Mason, Providence	No	Little River Turnpike
402	Backlick-Gallows Road Southbound	Local	Lee, Braddock, Mason, Providence	No	Little River Turnpike
493	Express Connector Lorton VRE	Express	Mount Vernon, Lee, Braddock, Mason, Providence	I-495	Leesburg Pike
494	Express Connector Springfield	Express	Lee, Braddock, Mason, Providence	I-495	Leesburg Pike
495	Express Connector Burke VRE	Express	Braddock, Mason, Providence	I-495	Leesburg Pike

Data for Fiscal Year 2013

## West

Number	Name	Service Type	Magisterial District	EPTC	WMATA PCN
466	Vienna - Oakton	Feeder	Providence, Hunter Mill	No	No
621	Penderbrook - Fairfax County Government Center	Local	Providence, Springfield, Braddock	I-66	No
622	Penderbrook - Fair Ridge	Feeder	Providence, Springfield	I-66	No
623	Fairfax County Government Center	Feeder	Providence, Springfield, Braddock	I-66	No
630	Centreville South	Local	Providence, Sully	I-66	No
631	Little Rocky Run	Feeder	Providence, Sully, Springfield	I-66	No
632	Westfields Boulevard - Walney Road	Feeder	Providence, Sully, Springfield, Braddock	I-66	No
640	Stone Road - Westfields Boulevard	Local	Providence, Sully, Springfield, Braddock	I-66	No
641	Centreville South - United Methodist Church Park and Ride	Feeder	Providence, Sully, Springfield, Braddock	I-66	No
642	Sully Station	Feeder	Sully, Springfield, Providence, Braddock	I-66	No
644	Centreville Park and Ride	Feeder	Sully, Springfield, Providence, Braddock	I-66	No
650	Chantilly	Local	Sully, Springfield, Providence	I-66	No
651	Chantilly - Brookfield	Feeder	Sully, Springfield, Providence	I-66	No
652	Chantilly - Franklin Farm	Feeder	Sully, Springfield, Providence	I-66	No

Data for Fiscal Year 2013

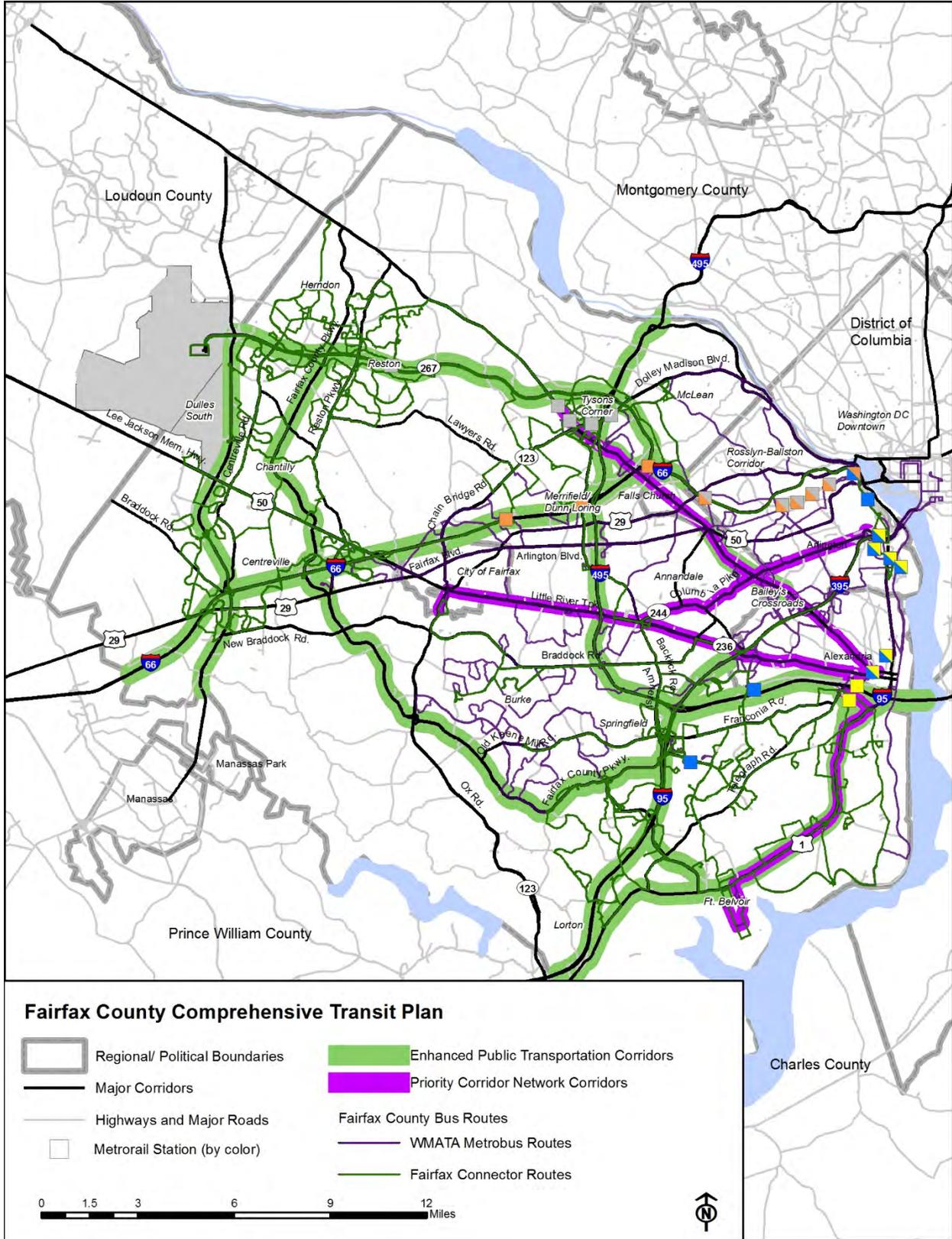
## North

Number	Name	Service Type	Magisterial District	EPTC	WMATA PCN
422	South Tysons - Greensboro Station	Circulator	Providence	Leesburg Pike	Leesburg Pike
423	Central Tysons - Tysons Corner Station	Circulator	Providence	Leesburg Pike	Leesburg Pike
424	North Tysons - Spring Hill Station	Circulator	Providence	Leesburg Pike	Leesburg Pike
432	Old Courthouse - Beulah	Circulator	Hunter Mill	Dulles Toll Road, Leesburg Pike	Leesburg Pike
461	Vienna - Flint Hill Tapawingo	Circulator	Providence, Hunter Mill	No	No
462	Dunn Loring - Tysons - Navy Federal	Local	Providence, Hunter Mill	No	No
463	Vienna-Tysons-Maple Avenue	Local	Providence, Hunter Mill	No	No
480	Wolf Trap Express	Special	Providence	Leesburg Pike	Leesburg Pike
505	Reston Town Center - Wiehle	Feeder	Hunter Mill	Dulles Toll Road	No
507	Sunrise Valley - Sunset Hills	Feeder	Hunter Mill	Dulles Toll Road	No
551	Reston South - Glade - South Lakes	Feeder	Hunter Mill	Dulles Toll Road	No
552	North Shore - Lake Fairfax	Feeder	Hunter Mill	No	No
553	Reston South - Viking - Pinecrest	Feeder	Hunter Mill	No	No
554	Wiehle Avenue - Center Harbor	Feeder	Hunter Mill	No	No
557	Reston South - Soapstone	Feeder	Hunter Mill	No	No
558	Center Harbor - Lake Fairfax	Circulator	Hunter Mill	No	No
559	Reston South - Glade - Soapstone	Circulator	Hunter Mill	No	No
574	Reston Town Center - Tysons	Local	Hunter Mill, Dranesville	Dulles Toll Road	No
585	Franklin Farm - Reston South - Wiehle-Reston East	Feeder	Hunter Mill, Sully	Dulles Toll Road	No
599	Pentagon - Crystal City Express	Express	Providence, Hunter Mill, Dranesville	Dulles Toll Road	No
605	Fair Oaks - Reston	Local	Hunter Mill, Sully, Springfield, Braddock	No	No
721	Chain Bridge Road - McLean	Feeder	Providence, Dranesville	No	No
724	Lewinsville Road	Feeder	Providence, Hunter Mill, Dranesville	Leesburg Pike	Leesburg Pike
734	McLean - West Falls Church	Feeder	Providence, Dranesville	Dulles Toll Road	No

Number	Name	Service Type	Magisterial District	EPTC	WMATA PCN
924	Herndon Parkway - Dranesville Road	Feeder	Hunter Mill, Dranesville	Dulles Toll Road	No
926	Worldgate - Dranesville Road	Feeder	Hunter Mill, Dranesville	Dulles Toll Road	No
927	South Herndon	Circulator	Hunter Mill, Dranesville	Dulles Toll Road	No
928	Herndon Parkway - Elden	Circulator	Hunter Mill, Dranesville	Dulles Toll Road	No
929	Centreville Road - McNair Farms	Feeder	Hunter Mill, Dranesville, Sully	Dulles Toll Road	No
937	Coppermine - Elden	Circulator	Hunter Mill, Dranesville	Dulles Toll Road	No
950	Herndon - Reston Town Center - Wiehle	Feeder	Hunter Mill, Dranesville	Dulles Toll Road	No
951	Sunrise Valley	Distributor	Hunter Mill	Dulles Toll Road	No
952	Sunset Hills	Distributor	Hunter Mill, Dranesville	Dulles Toll Road	No
980	Herndon Monroe - Wiehle	Feeder	Hunter Mill	Dulles Toll Road	No
981	Dulles Airport - Wiehle	Express	Hunter Mill, Dranesville	Dulles Toll Road	No
985	DullesDiscovery - Dulles Technology Drive	Distributor	Hunter Mill, Dranesville, Sully	Dulles Toll Road	No
RIBS 1	Lake Anne - Hunter Woods	Circulator	Hunter Mill	Dulles Toll Road	No
RIBS 2	South Lakes Drive	Circulator	Hunter Mill	Dulles Toll Road	No
RIBS 3	Hunters Woods - Lake Anne	Circulator	Hunter Mill	Dulles Toll Road	No
RIBS 4	North Point	Circulator	Hunter Mill	No	No
RIBS 5	Herndon	Circulator	Hunter Mill, Dranesville	Dulles Toll Road	No

*Data reflects service changes effective with the opening of the Silver Line*

**Figure I-4: Enhanced Public Transportation Corridors and Priority Corridor Network**



---

## I.3 Basic Line Characteristics

The operating and financial characteristics of the South and West County routes provide a starting point for analysis of Fairfax Connector existing service. The majority of the route characteristics data were drawn from Fairfax Connector's FY 2013 Performance Measures spreadsheet, however span of service, headways, one-way trips, and one-way trip run time were calculated based on September 2013 schedule data. North County route revenue miles and hours, number of trips, and peak vehicle data was drawn from Fairfax County's March 1, 2014 Herndon and West Ox Division Hour and Miles Estimates; span and headway data was drawn from Fairfax County's "Revision to Fairfax Connector Service to Support Phase I of the Metrorail Silver Line" presentation.

### I.3.1. Service Supplied

Table I-4 provides annual service supply data for all Fairfax Connector Routes, including weekday, Saturday, and Sunday service. Table I-5 through Table I-7 provide daily service supply data by service area and route for weekdays, Saturdays and Sundays, respectively. No West County service is supplied on weekends. Accordingly, there are no West sections for Table I-6 or Table I-7.

The service measures are revenue miles, revenue hours, total miles, total hours, one-way trips, and number of vehicles. Certain routes are interlined with others, meaning the same vehicle switches back and forth from one route to another. For some of these interlined groups, the County maintains separate figures for miles and hours for the individual routes, and for others it only tracks total miles and hours for all of the routes combined. When a route is interlined and data is not available separately for the individual routes, it is noted by an asterisk in the tables. In each table, and in those in subsequent sections, only those routes that operate on that day of the week are listed. Each of the measures shown is defined as follows:

Revenue miles: The miles a vehicle travels while in service and available to passengers for transport on the routes. Revenue miles excludes "deadhead" miles (when the bus is traveling to or from the garage or moving from the endpoint of one route to the starting point of another route without carrying passengers).

Revenue hours: The measure of scheduled hours of service available to passengers for transport on the routes. Excludes deadhead hours, but includes layover time between successive trips that don't include a deadhead move from one point to another (including when a route runs in the peak direction only and expresses back out to the end of the line without carrying passengers in the reverse-peak direction).<sup>2</sup>

Total miles: The miles a vehicle travels while in service when it is available to passengers for transport on the routes, plus non-revenue (deadhead) miles. Measures the total mileage from the time the bus leaves the garage to when it returns to the garage.

Total hours: The measure of scheduled hours of service available to passengers for transport on the routes as well as non-revenue hours. Measures the total time from when the bus leaves the garage to when it returns to the garage.

---

<sup>2</sup> This definition of revenue hours, where out-of-service express trips traveling back to the route start is counted as layover instead of deadhead, is specific to Fairfax County and is not an industry-wide definition.

---

One-way trips: A one-way trip by a transit vehicle in revenue service is based on the start at the first point of a route and ending at the terminal point. A round trip is counted as two separate trips. In the case where the route is a pure loop and where there is no logical way to identify the terminal points, traversing of the loop is regarded as a one-way trip.

Revenue vehicles: Vehicles used in providing transit service for passengers. Fairfax Connector also has non-revenue vehicles, used for transporting field supervisors and bus operators.

Peak vehicles: The number of revenue vehicles which operate during the weekday morning and afternoon time periods when transit ridership is heaviest. Routes that run only during non-peak periods on weekdays (midday and evening hours) will show zero peak vehicles. The number of peak vehicles determines the size of the fleet that the County needs to own and maintain.

System totals are provided at the end of the “North” portion of each individual table. Note that Route 480 is included on the annual table for the North Service Area, but not in the weekday, Saturday or Sunday tables. Route 480 is the Wolf Trap Express route, which operates special service on days when there is an event at Wolf Trap National Park for the Performing Arts. For the annual total, 107 days of typical Route 480 event service has been included.

Fairfax Connector classifies its revenue fleet into three operational groups. “Pull-out” buses are those that are used for scheduled service, “strategics” are those that can be brought into circulation when a particular route is experiencing unusually high demand, and “spares” are those that are available to replace a bus from the pull-out or strategic fleet if needed due to a breakdown. The daily revenue fleet need comprises the sum of peak pull-out vehicles for each route, plus strategics. Table I-8 details the revenue fleet needs by garage for weekdays, Saturdays, and Sundays, as well as the total revenue vehicles available at each garage. Table I-9 details the Fairfax Connector fleet by vehicle make and size.

The Connector also operates non-revenue vehicles for street supervision and addressing maintenance issues in the field with 12 non-revenue vehicles at the Huntington garage, 6 at the West Ox garage, and 11 at the Herndon garage.

**Table I-4: Fairfax Connector Annual Service Provided**

**South**

Number	Name	Revenue Miles	Revenue Hours	Total Miles	Total Hours	One-way Trips
101	Fort Hunt Road - Mount Vernon	189,075	11,918	212,345	12,259	19,695
109	Rose Hill	114,106	11,715	127,807	13,441	17,814
151	Woodlawn	596,930	19,013	680,887	50,108	20,790
152	Groveton - Mount Vernon	*	16,934	*	*	18,750
159	Engleside Limited Stop	*	8,452	*	*	7,905
161	Hybla Valley Counter-Clockwise	99,809	9,609	112,747	10,506	9,265
162	Hybla Valley Clockwise	99,144	7,967	110,350	8,807	9,010
171	Richmond Highway	517,938	41,835	547,319	44,317	34,468
231	Kingstowne Counter-Clockwise	74,911	5,457	81,847	5,973	5,610
232	Kingstowne Clockwise	81,434	5,990	90,002	6,506	6,120
301	Telegraph Road Line	76,569	6,046	98,407	7,489	6,630
305	Newington Forest - Silverbrook Road	120,151	7,030	131,516	7,931	8,670
306	GMU – Pentagon	62,735	3,022	62,735	3,022	3,060
310	Franconia Road - Rolling Valley	384,915	32,401	457,018	34,899	26,506
321	Springfield Counter-Clockwise	183,577	14,602	201,978	15,667	9,630
322	Springfield Clockwise	171,854	13,360	187,436	14,284	9,120
333	Patriot Ridge - Saratoga Line	78,971	5,393	84,377	5,722	8,160
334	DLA Circulator	121,347	7,900	127,263	8,346	8,160
335	Fort Belvoir Eagle Express	63,660	4,193	74,760	4,953	3,500
371	Lorton-Franconia Springfield	201,369	14,534	206,060	15,540	15,279
372	Lorton-Alban Rd	64,359	4,355	65,175	4,503	7,140
373	Lorton-Fullerton Rd	71,122	4,355	75,434	4,526	7,395
394	Saratoga-Pentagon Express	95,218	3,938	113,218	4,790	3,500
395	Pentagon - Gambrill Road	136,649	5,911	198,668	8,157	5,610
401	Backlick-Gallows Road NB	322,890	27,866	343,999	29,228	18,530
402	Backlick-Gallows Road SB	341,934	30,467	377,760	32,638	19,660
493	Express Connector Lorton VRE	188,978	7,724	280,319	10,906	5,865
494	Express Connector Springfield	196,205	8,410	288,719	11,021	6,885
495	Express Connector Burke VRE	172,393	8,652	243,104	11,307	6,885
<b>SERVICE AREA TOTAL</b>		<b>4,828,242</b>	<b>349,048</b>	<b>5,581,251</b>	<b>386,849</b>	<b>329,612</b>

Data for Fiscal Year 2013

\* Interlined with route(s) immediately above

## West

Number	Name	Revenue Miles	Revenue Hours	Total Miles	Total Hours	One-way Trips
466	Vienna – Oakton	33,040	2,504	42,016	2,808	4,590
621	Penderbrook - Fairfax County Government Center	77,168	4,417	82,549	4,751	4,845
622	Penderbrook - Fair Ridge	52,482	3,154	52,966	3,218	3,825
623	Fairfax County Government Center	64,915	3,838	67,108	4,039	5,100
630	Centreville South	67,669	4,167	77,461	4,442	4,080
631	Little Rocky Run	81,008	4,154	103,703	5,031	4,335
632	Westfields Boulevard - Walney Road	94,110	4,814	117,596	5,679	7,140
640	Stone Road - Westfields Boulevard	79,272	3,157	89,013	3,504	5,100
641	Centreville South - United Methodist Church Park and Ride	118,947	5,248	138,914	6,056	9,180
642	Sully Station	122,693	5,862	149,086	6,969	7,140
644	Centreville Park and Ride	86,978	4,970	127,166	5,796	5,865
650	Chantilly	72,060	3,550	82,949	3,998	5,355
651	Chantilly - Brookfield	78,576	4,600	92,805	5,136	5,865
652	Chantilly - Franklin Farm	80,169	4,649	100,136	5,447	6,120
<b>SERVICE AREA TOTAL</b>		<b>1,109,089</b>	<b>59,084</b>	<b>1,323,468</b>	<b>66,874</b>	<b>78,540</b>

Data for Fiscal Year 2013

## North

Number	Name	Revenue Miles	Revenue Hours	Total Miles	Total Hours	One-way Trips
422	South Tysons - Greensboro Station	82,954	6,724	103,150	9,412	19,380
423	Central Tysons - Tysons Corner Station	122,328	10,833	154,005	13,859	25,835
424	North Tysons - Spring Hill Station	81,406	7,477	99,256	10,032	21,675
432	Old Courthouse - Beulah	23,345	1,696	2,124	2,124	2,550
461	Vienna - Flint Hill Tapawingo	40,193	3,231	3,871	3,871	5,100
462	Dunn Loring - Tysons - Navy Federal	54,848	5,108	6,393	6,393	7,650
463	Vienna-Tysons-Maple Avenue	131,829	16,591	35,586	17,742	24,700
480	Wolf Trap Express	8,411	1,195	12,015	1,195	varies
505	Reston Town Center - Wiehle	80,242	4,726	82,288	7,310	40,539
507	Sunrise Valley - Sunset Hills	45,632	3,213	46,907	4,332	10,710
551	Reston South - Glade - South Lakes	192,265	11,991	201,140	15,518	30,186
552	North Shore - Lake Fairfax	28,032	1,971	47,540	3,389	5,865
553	Reston South - Viking - Pinecrest	45,171	2,507	64,084	3,366	5,355
554	Wiehle Avenue - Center Harbor	25,446	1,563	41,249	3,356	5,865
557	Reston South - Soapstone	26,306	1,670	47,631	2,282	5,610
558	Center Harbor - Lake Fairfax	58,008	2,785	59,195	3,668	6,685
559	Reston South - Glade - Soapstone	69,449	4,354	71,274	5,435	6,940
574	Reston Town Center - Tysons	259,738	10,715	270,507	15,490	22,561
585	Franklin Farm - Reston South - Wiehle-Reston East	56,901	5,087	76,230	6,077	7,905
599	Pentagon - Crystal City Express	84,604	3,078	172,834	4,338	3,570
605	Fair Oaks - Reston	158,305	10,034	169,847	10,797	10,282
721	Chain Bridge Road - McLean	112,364	10,407	142,351	13,267	29,368
724	Lewinsville Road	34,374	2,619	57,758	3,233	7,395
734	McLean - West Falls Church	27,548	1,752	35,277	2,303	6,375
924	Herndon Parkway - Dranesville Road	57,694	2,813	66,412	3,815	5,610
926	Worldgate - Dranesville Road	44,995	2,512	45,946	3,445	4,590
927	South Herndon	31,515	2,068	40,848	2,412	4,080
928	Herndon Parkway - Elden	29,585	1,624	30,631	1,941	3,315
929	Centreville Road - McNair Farms	91,897	4,661	96,997	5,317	5,100

Number	Name	Revenue Miles	Revenue Hours	Total Miles	Total Hours	One-way Trips
937	Coppermine - Elden	125,712	9,085	127,209	10,708	10,629
950	Herndon - Reston Town Center - Wiehle	328,884	22,621	335,109	28,519	34,805
951	Sunrise Valley	29,371	1,785	30,801	2,433	7,140
952	Sunset Hills	38,117	1,913	40,945	3,305	7,650
980	Herndon Monroe - Wiehle	43,857	2,262	62,970	5,347	13,770
981	Dulles Airport - Wiehle	324,839	18,303	334,026	23,961	36,016
985	DullesDiscovery - Dulles Technology Drive	72,894	3,866	84,573	4,434	7,140
RIBS 1	Lake Anne - Hunter Woods	124,700	9,376	126,625	11,104	11,168
RIBS 2	South Lakes Drive	130,019	9,113	131,944	11,076	11,168
RIBS 3	Hunters Woods - Lake Anne	131,338	9,307	133,263	11,030	11,168
RIBS 4	North Point	87,847	5,589	89,043	7,886	10,913
RIBS 5	Herndon	57,900	3,877	58,705	5,469	7,978
<b>SERVICE AREA TOTAL</b>		<b>3,600,865</b>	<b>242,100</b>	<b>3,838,558</b>	<b>310,990</b>	<b>504,341</b>
<b>ANNUAL TOTALS (All Service Areas)</b>		<b>9,538,196</b>	<b>650,232</b>	<b>10,743,277</b>	<b>764,712</b>	<b>912,493</b>

North County data reflects service changes effective with the opening of the Silver Line.

**Table I-5: Fairfax Connector Weekday Service Provided**

**South**

Number	Name	Revenue Miles	Revenue Hours	Total Miles	Total Hours	One-way Trips	Peak Vehicles
101	Fort Hunt Road - Mount Vernon	586	38	649	38	61	6
109	Rose Hill	403	43	454	49	63	*
151	Woodlawn	1,965	63	2,272	172	66	10
152	Groveton - Mount Vernon	*	54	*	*	58	*
159	Engleside Limited Stop	*	33	*	*	31	4
161	Hybla Valley Counter-Clockwise	312	30	351	33	29	4
162	Hybla Valley Clockwise	309	25	346	28	28	*
171	Richmond Highway	1,535	125	1,631	133	102	8
231	Kingstowne Counter-Clockwise	294	21	321	23	22	4
232	Kingstowne Clockwise	319	23	353	26	24	*
301	Telegraph Road Line	300	24	386	29	26	7
305	Newington Forest - Silverbrook Road	471	28	516	31	34	*
306	GMU - Pentagon	246	12	246	12	12	0*
310	Franconia Road - Rolling Valley	1,283	105	1,546	113	88	7
321	Springfield Counter-Clockwise	574	47	638	51	30	6
322	Springfield Clockwise	527	40	580	44	28	*
333	Patriot Ridge - Saratoga Line	310	21	331	22	32	4
334	DLA Circulator	476	31	499	33	32	*
335	Fort Belvoir Eagle Express	255	17	299	20	14	3
371	Lorton-Franconia Springfield	537	39	560	42	39	5
372	Lorton-Alban Rd	252	17	256	18	28	2
373	Lorton-Fullerton Rd	279	17	296	18	29	3
394	Saratoga-Pentagon Express	381	16	453	19	14	2
395	Pentagon - Gambrill Road	536	23	779	32	22	3
401	Backlick-Gallows Road NB	1,007	90	1,080	94	58	12
402	Backlick-Gallows Road SB	1,072	97	1,198	104	62	*
493	Express Connector Lorton VRE	741	30	1,099	43	23	5
494	Express Connector Springfield	769	33	1,132	43	27	6
495	Express Connector Burke VRE	676	34	953	44	27	6
<b>SERVICE AREA TOTAL</b>		<b>16,415</b>	<b>1,177</b>	<b>19,225</b>	<b>1,316</b>	<b>1,109</b>	<b>107</b>

Data for Fiscal Year 2013

\* Interlined with route immediately above

## West

Number	Name	Revenue Miles	Revenue Hours	Total Miles	Total Hours	One-way Trips	Peak Vehicles
466	Vienna - Oakton	130	10	165	11	18	1
621	Penderbrook - Fairfax County Government Center	303	17	324	19	19	0*
622	Penderbrook - Fair Ridge	206	12	208	13	15	2
623	Fairfax County Government Center	255	15	263	16	20	2
630	Centreville South	265	16	304	17	16	0*
631	Little Rocky Run	318	16	407	20	17	3
632	Westfields Boulevard - Walney Road	369	19	461	22	28	2
640	Stone Road - Westfields Boulevard	311	12	349	14	20	0*
641	Centreville South - United Methodist Church Park and Ride	466	21	545	24	36	3
642	Sully Station	481	23	585	27	28	4
644	Centreville Park and Ride	341	19	499	23	23	3
650	Chantilly	283	14	325	16	21	0*
651	Chantilly - Brookfield	308	18	364	20	23	3
652	Chantilly - Franklin Farm	314	18	393	21	24	3
<b>SERVICE AREA TOTAL</b>		<b>4,349</b>	<b>232</b>	<b>5,190</b>	<b>262</b>	<b>308</b>	<b>26</b>

Data for Fiscal Year 2013

\* These routes do not offer peak period service.

## North

Number	Name	Revenue Miles	Revenue Hours	Total Miles	Total Hours	One-way Trips	Peak Vehicles
422	South Tysons - Greensboro Station	325	26	405	37	76	3
423	Central Tysons - Tysons Corner Station	379	34	487	44	80	4
424	North Tysons - Spring Hill Station	319	29	389	39	85	3
432	Old Courthouse - Beulah	92	7	151	8	10	1
461	Vienna - Flint Hill Tapawingo	158	13	228	15	20	2
462	Dunn Loring - Tysons - Navy Federal	215	20	330	25	30	3
463	Vienna-Tysons-Maple Avenue	448	60	545	63	84	4
505	Reston Town Center - Wiehle	235	14	242	22	119	1
507	Sunrise Valley - Sunset Hills	179	13	184	17	42	1
551	Reston South - Glade - South Lakes	573	36	605	46	90	4
552	North Shore - Lake Fairfax	110	8	186	13	23	2
553	Reston South - Viking – Pinecrest	177	10	251	13	21	2
554	Wiehle Avenue - Center Harbor	100	6	162	13	23	2
557	Reston South - Soapstone	103	7	187	9	22	2
558	Center Harbor - Lake Fairfax	130	6	133	9	15	0**
559	Reston South - Glade – Soapstone	160	10	165	12	16	0**
574	Reston Town Center - Tysons	771	32	805	46	67	3
585	Franklin Farm - Reston South - Wiehle-Reston East	223	20	299	24	31	2
599	Pentagon - Crystal City Express	332	12	678	17	14	5
605	Fair Oaks – Reston	462	31	501	32	30	2
721	Chain Bridge Road - McLean	333	31	429	39	92	3
724	Lewinsville Road	135	10	227	13	29	3
734	McLean - West Falls	108	7	138	9	25	*

Number	Name	Revenue Miles	Revenue Hours	Total Miles	Total Hours	One-way Trips	Peak Vehicles
	Church						
924	Herndon Parkway - Dranesville Road	226	11	260	15	22	3
926	Worldgate - Dranesville Road	176	10	180	14	18	*
927	South Herndon	124	8	160	9	16	1
928	Herndon Parkway - Elden	116	6	120	8	13	1
929	Centreville Road - McNair Farms	360	18	380	21	20	2
937	Coppermine - Elden	376	28	380	32	32	2
950	Herndon - Reston Town Center - Wiehle	995	70	1015	88	105	6
951	Sunrise Valley	115	7	121	10	28	1
952	Sunset Hills	149	8	161	13	30	1
980	Herndon Monroe - Wiehle	172	9	247	21	54	2
981	Dulles Airport - Wiehle	974	55	1000	72	108	4
985	DullesDiscovery - Dulles Technology Drive	286	15	332	17	28	2
RIBS 1	Lake Anne - Hunter Woods	376	29	381	34	34	2
RIBS 2	South Lakes Drive	397	28	402	34	34	2
RIBS 3	Hunters Woods - Lake Anne	402	29	407	33	34	2
RIBS 4	North Point	231	14	234	21	33	2
RIBS 5	Herndon	172	11	175	16	24	1
<b>SERVICE AREA TOTAL</b>		<b>11,715</b>	<b>795</b>	<b>13,682</b>	<b>1,023</b>	<b>1,677</b>	<b>86</b>
<b>WEEKDAY TOTALS (All Service Areas)</b>		<b>32,480</b>	<b>2,205</b>	<b>38,098</b>	<b>2,601</b>	<b>3,094</b>	<b>219</b>

North County data reflects service changes effective with the opening of the Silver Line.

\* Interlined with route immediately above

\*\* These routes do not offer peak period service.

**Table I-6: Fairfax Connector Saturday Service Provided**

**South**

<b>Number</b>	<b>Name</b>	<b>Revenue Miles</b>	<b>Revenue Hours</b>	<b>Total Miles</b>	<b>Total Hours</b>	<b>One-way Trips</b>	<b>Peak Vehicles</b>
101	Fort Hunt Road - Mount Vernon	461	25	556	29	48	1
109	Rose Hill	214	17	227	17	33	1
151	Woodlawn	423	26	453	28	36	2
152	Groveton - Mount Vernon	448	28	463	29	36	1
161	Hybla Valley Counter-Clockwise	184	18	198	19	17	1
162	Hybla Valley Clockwise	186	15	200	16	17	1
171	Richmond Highway	1,194	93	1,239	97	80	6
310	Franconia Road - Rolling Valley	545	54	587	56	38	3
321	Springfield Counter-Clockwise	340	24	358	24	18	4
322	Springfield Clockwise	341	28	359	29	18	*
371	Lorton-Franconia Springfield Metro	665	49	682	52	57	3
401	Backlick-Gallows Road Northbound	600	44	624	47	34	3
402	Backlick-Gallows Road Southbound	622	53	656	56	35	3
<b>SERVICE AREA TOTAL</b>		<b>6,222</b>	<b>472</b>	<b>6,602</b>	<b>498</b>	<b>467</b>	<b>29</b>

Data for Fiscal Year 2013

\* Interlined with route immediately above

## North

Number	Name	Revenue Miles	Revenue Hours	Total Miles	Total Hours	One-way Trips	Peak Vehicles
423	Central Tysons - Tysons Corner Station	246	21	289	25	52	2
463	Vienna-Tysons-Maple Avenue	187	15	206	18	35	2
505	Reston Town Center - Wiehle	202	12	205	17	102	1
551	Reston South - Glade - South Lakes	458	29	463	36	72	2
558	Center Harbor - Lake Fairfax	226	11	231	13	26	1
559	Reston South - Glade - Soapstone	260	17	265	21	26	1
574	Reston Town Center - Tysons	644	26	665	37	56	2
605	Fair Oaks - Reston	400	22	415	26	26	2
721	Chain Bridge Road - McLean	289	27	339	33	62	2
937	Coppermine - Elden	291	20	295	24	24	2
950	Herndon - Reston Town Center - Wiehle	684	43	691	55	73	3
981	Dulles Airport - Wiehle	937	53	969	69	104	4
RIBS 1	Lake Anne - Hunter Woods	359	25	364	31	31	2
RIBS 2	South Lakes Drive	359	25	364	31	31	2
RIBS 3	Hunters Woods - Lake Anne	359	25	364	31	31	2
RIBS 4	North Point	359	25	364	31	31	2
RIBS 5	Herndon	150	11	151	15	20	1
<b>SERVICE AREA TOTAL</b>		<b>6,409</b>	<b>405</b>	<b>6,641</b>	<b>512</b>	<b>802</b>	<b>33</b>
<b>SATURDAY TOTALS (All Service Areas)</b>		<b>12,631</b>	<b>877</b>	<b>13,243</b>	<b>1,010</b>	<b>1,269</b>	<b>62</b>

North County data reflects service changes effective with the opening of the Silver Line

**Table I-7: Fairfax Connector Sunday Service Provided**

**South**

<b>Number</b>	<b>Name</b>	<b>Revenue Miles</b>	<b>Revenue Hours</b>	<b>Total Miles</b>	<b>Total Hours</b>	<b>One-way Trips</b>	<b>Peak Vehicles</b>
101	Fort Hunt Road - Mount Vernon	269	14	303	16	28	1
151	Woodlawn	423	26	461	28	36	2
152	Groveton - Mount Vernon	448	28	467	29	36	1
161	Hybla Valley Counter-Clockwise	184	18	222	19	17	1
162	Hybla Valley Clockwise	186	15	204	16	17	1
171	Richmond Highway	1,108	87	1,153	91	74	6
310	Franconia Road - Rolling Valley	508	50	558	53	36	3
321	Springfield Counter-Clockwise	336	24	355	24	18	4
322	Springfield Clockwise	341	28	359	29	18	*
371	Lorton-Franconia Springfield Metro	514	37	523	38	44	2
401	Backlick-Gallows Road Northbound	600	44	624	47	34	3
402	Backlick-Gallows Road Southbound	622	53	656	56	35	3
<b>SERVICE AREA TOTAL</b>		<b>5,539</b>	<b>424</b>	<b>5,885</b>	<b>445</b>	<b>393</b>	<b>27</b>

Data for Fiscal Year 2013

\* Interlined with route immediately above

## North

Number	Name	Revenue Miles	Revenue Hours	Total Miles	Total Hours	One-way Trips	Peak Vehicles
423	Central Tysons - Tysons Corner Station	223	20	255	23	47	2
463	Vienna-Tysons-Maple Avenue	133	11	152	14	25	1
505	Reston Town Center - Wiehle	166	10	169	15	84	1
551	Reston South - Glade - South Lakes	382	24	393	31	60	2
558	Center Harbor - Lake Fairfax	226	11	231	14	26	1
559	Reston South - Glade - Soapstone	260	17	265	22	26	1
574	Reston Town Center - Tysons	506	21	527	30	44	2
605	Fair Oaks - Reston	339	18	354	23	22	2
721	Chain Bridge Road - McLean	214	21	264	26	46	2
937	Coppermine - Elden	255	17	259	21	21	2
950	Herndon - Reston Town Center - Wiehle	684	43	694	56	73	3
981	Dulles Airport - Wiehle	468	26	484	36	52	2
RIBS 1	Lake Anne - Hunter Woods	174	12	176	15	15	1
RIBS 2	South Lakes Drive	174	12	176	15	15	1
RIBS 3	Hunters Woods - Lake Anne	174	12	176	15	15	1
RIBS 4	North Point	174	12	176	15	15	1
RIBS 5	Herndon	105	7	105	9	14	1
<b>SERVICE AREA TOTAL</b>		<b>4,655</b>	<b>291</b>	<b>4,857</b>	<b>381</b>	<b>600</b>	<b>26</b>
<b>SUNDAY TOTALS (All Service Areas)</b>		<b>10,195</b>	<b>715</b>	<b>10,742</b>	<b>826</b>	<b>993</b>	<b>53</b>

North County data reflects service changes effective with the opening of the Silver Line

**Table I-8: Fairfax Connector Revenue Vehicles Statistics**

Garage	Revenue Vehicles Needed for Scheduled Service (Pull-out + Strategics)			Spares	Total Revenue Vehicles Assigned to Garage
	Weekday	Saturday	Sunday		
Huntington	80	29	27	24	104
West Ox	69	0	0	5	74
Herndon	70	33	26	22	92
<b>TOTALS</b>	<b>219</b>	<b>62</b>	<b>53</b>	<b>51</b>	<b>270</b>

Data sources: FY2013 Performance Measures provided by Fairfax County and Fairfax Fleet 9.15.13

**Table I-9: Fairfax Connector Revenue Fleet**

Garage	Bus Type					Garage Totals
	Seating Capacity	New Flyer 40'	New Flyer 35'	Orion V 40'	Orion V 35'	
Huntington	82	10			12	104
West Ox	55	15			4	74
Herndon	48	6	11	8	19	92
<b>SYSTEM TOTALS</b>	<b>185</b>	<b>31</b>	<b>11</b>	<b>8</b>	<b>35</b>	<b>270</b>

Data source: Fairfax Fleet 9.15.13

---

### 1.3.2. Service Operating Characteristics

Service operating statistics provide more detailed information on what kind of service a rider will experience on a particular route. The statistics answer questions such as when the service is available, how frequently the service operates, and how long it takes to travel from end to end.

Span of service: The span of hours over which service is operated. The start time indicates the scheduled departure time of the first bus of the day from the first stop on its route and the end time indicates the scheduled arrival time of the last bus of the day at the last stop on the route. Note that many Connector routes operate during peak periods only, thus the spans provided in the table do not necessarily mean that buses are running on that route during the entire time from start to end. Those routes with only peak period service are noted with a “(p)” after their name in the tables that follow.

Headway: Time interval between vehicles moving in the same direction on a particular route. Peak headway is the interval between vehicles during morning and afternoon rush. Midday and evening headways capture off-peak headway information. As scheduled headways tend to vary even within one time period, the headways in the following tables are approximate averages unless the variation within a particular service period was ten minutes or greater, in which case the headway is given as a range. “NS” indicates no service during that time period; peak-only routes have a NS indication for the midday headway. Routes were considered to have evening service if they operate later than 9:00 p.m.

One-way run time: The scheduled time it takes for the bus to run the full one-way trip from start to end. One-way run time is calculated as an average of all the one-way trips in a day. In certain instances the direction the bus was traveling on its route made a significant difference in its run time, when that was the case the run time is given for both directions with NB signifying northbound, SB signifying southbound. Along other routes run time varies ten minutes or more depending on time of day, and in those instances run time is given as a range.

The majority of South and West County Service Area routes have scheduled headways of between 21 and 30 minutes. One initiative that emerged out of the County’s 2009 Transit Development Plan (TDP) was to shorten headways where possible and thus improve the frequency of service. In planning for the North County Service Area changes to accommodate the arrival of the Silver Line Metrorail, many North County routes are being scheduled with 15-minute headways for service that will feed the new Metrorail stations. Table I-10 shows a summary of routes by headway category for by service area and days of the week.

On weekdays, a large majority of Fairfax Connector routes (65 of 75 peak period routes) have peak period headways of 30 minutes or less. West Service Area is the only area with such frequent service on less than half of its routes. Figure I-5 and Figure I-6 show Fairfax Connector peak period headways.

In the midday and evening periods, the number of routes with headways of 30 minutes or less drops to slightly less than half of routes (21 of 45 midday and 23 of 48 evening), with increases in the number of routes operating with long headways over 50 minutes. The majority of South County and West County routes, operate long headways over 50 minutes during both periods. West County actually has no routes during these times with headways of 30 minutes or less, and during the midday all West County service is operated at headways over 50 minutes. North County service continues to operate similar headways as during the peak, albeit with fewer routes. Figure I-7 and Figure I-9 show the Fairfax

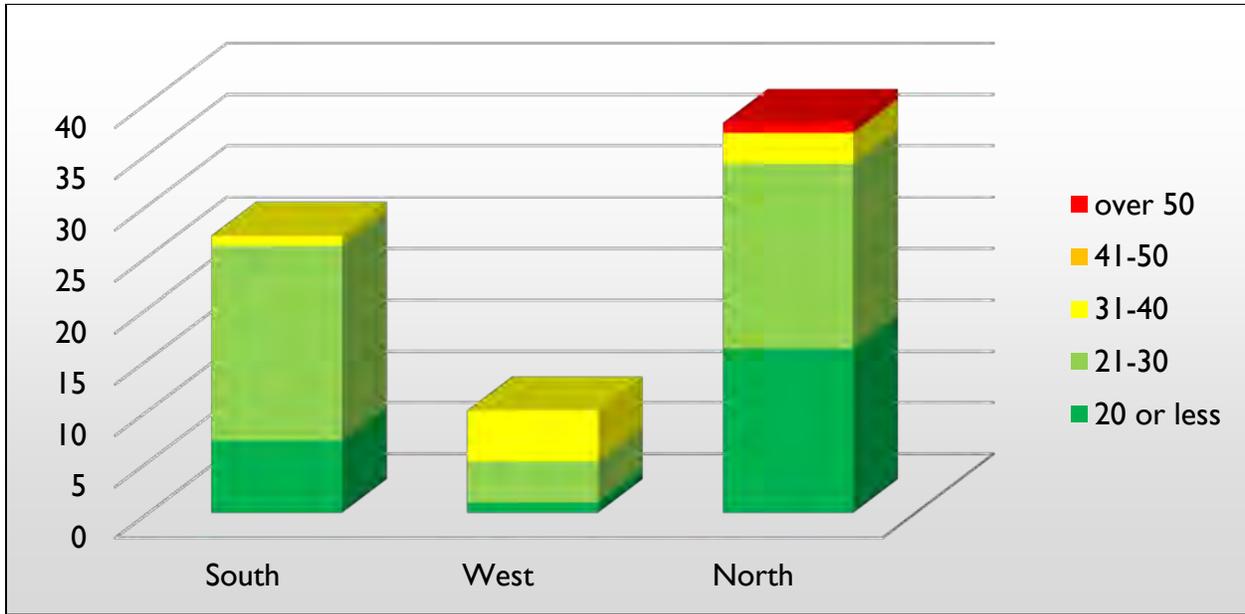
Connector midday period headways, and Figure I-8 and Figure I-10 show evening period headways. Saturday headways are similar to weekday midday and evening headways, while the majority of Sunday headways are over 50 minutes (18 and 15 respectively).

Fairfax Connector service has a wide range of service spans in terms of the hours and days that service is offered. A majority of routes (53 of 84) operate on weekdays only. Among those routes that do operate on weekends, almost all (29 of 30) operate on both Saturday and Sunday. All of the weekend service is provided by routes that also operate on weekdays, simplifying the overall service pattern for customers. The South and North Service Areas follow a similar pattern, with roughly 40 percent of routes operating seven days per week. In those service areas, most of the weekday-only routes are peak-only, midday-only, or peak and evening routes that supplement the core seven day service. In the West Service Area, ten of 14 weekday routes operate only in the peaks, and the other four operate only in the midday and evening. Figure I-11 and Figure I-12 provide additional details on the Fairfax Connector service levels by Operating Period. Table I-12 through Table I-14 provide full operating characteristics for Fairfax Connector service on weekdays, Saturdays, and Sundays.

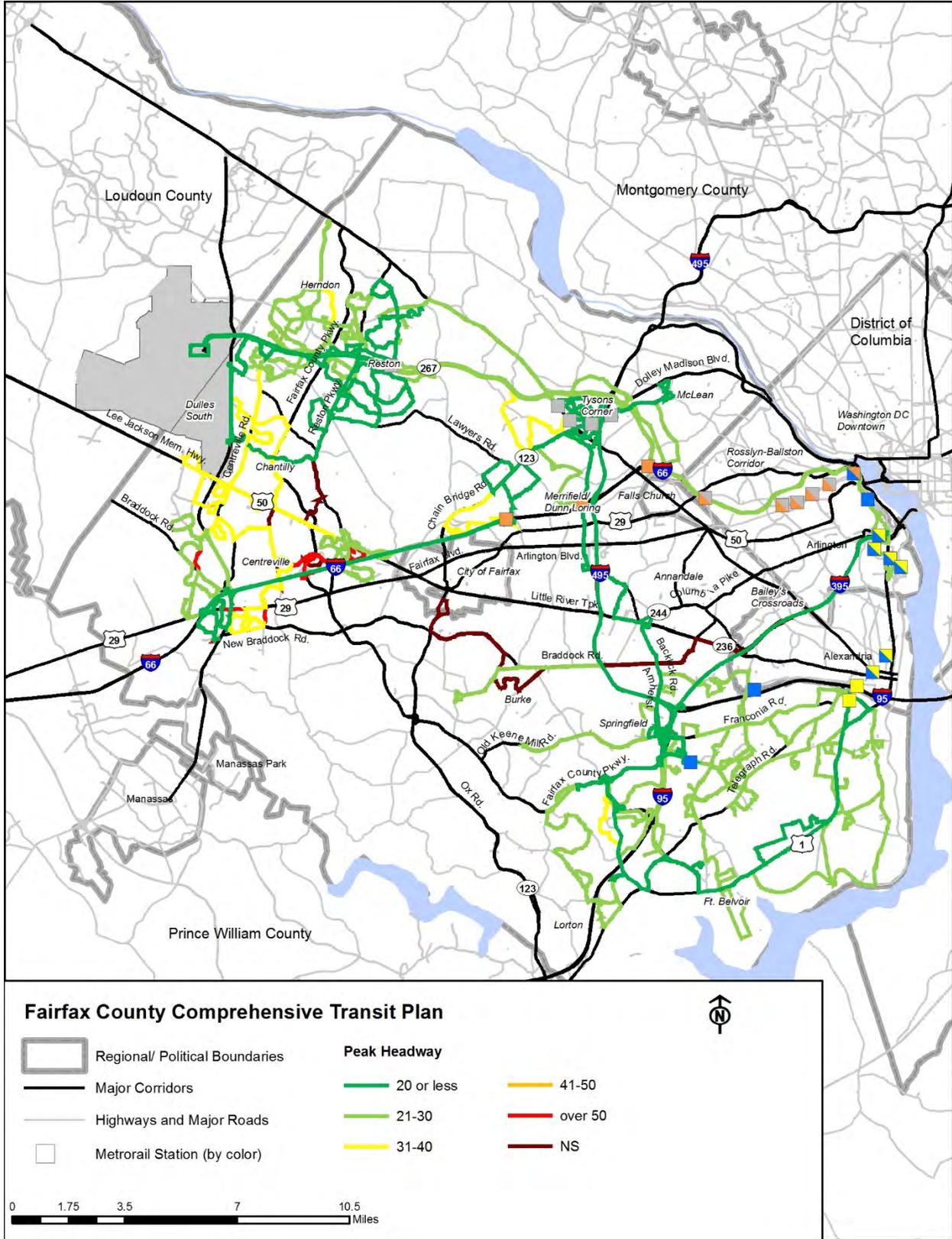
**Table I-10: Fairfax Connector Headways by Time Period**

Headways (min)	Weekday			Saturday	Sunday
	Peak	Midday	Evening		
20 or less	24	5	5	2	1
21-30	41	16	16	10	7
31-40	9	5	7	5	5
41-50	0	3	3	2	1
over 50	1	18	16	11	15
<b>TOTALS</b>	<b>75</b>	<b>47</b>	<b>47</b>	<b>30</b>	<b>29</b>

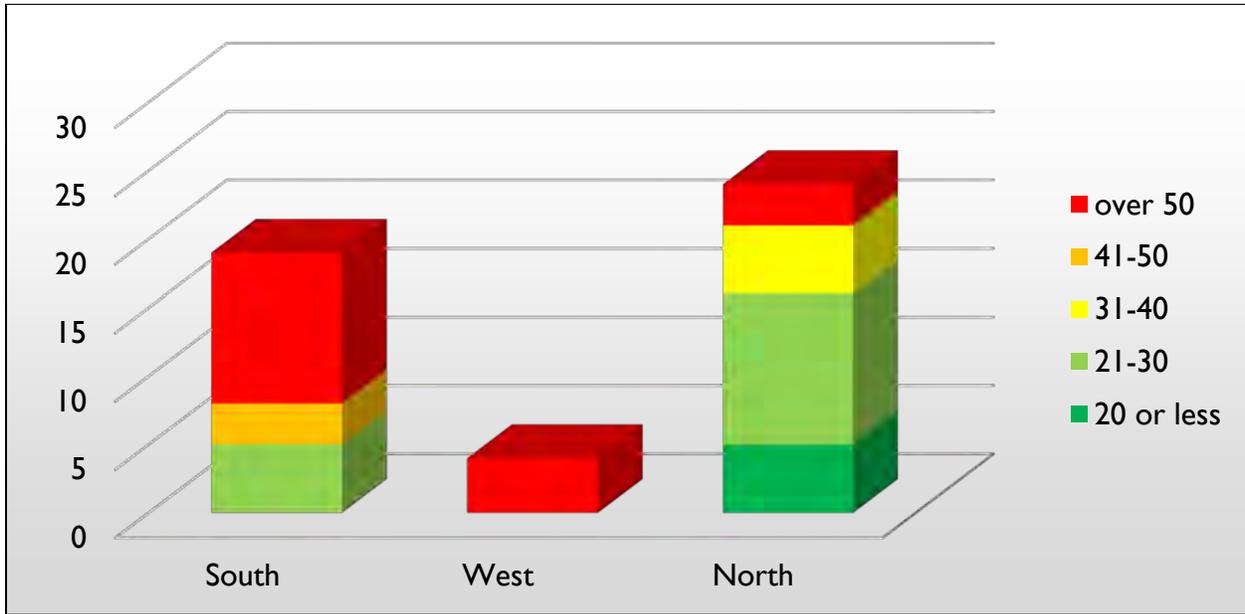
**Figure I-5: Fairfax Connector Routes by Peak Period Headway**



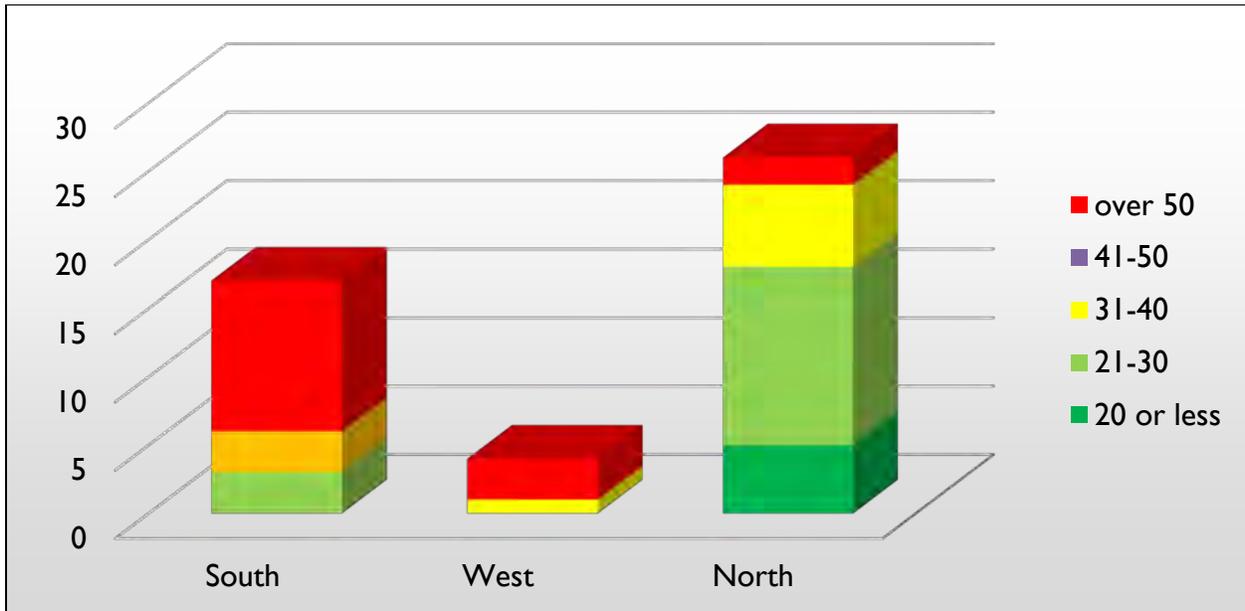
**Figure I-6: Fairfax Connector Peak Headway**



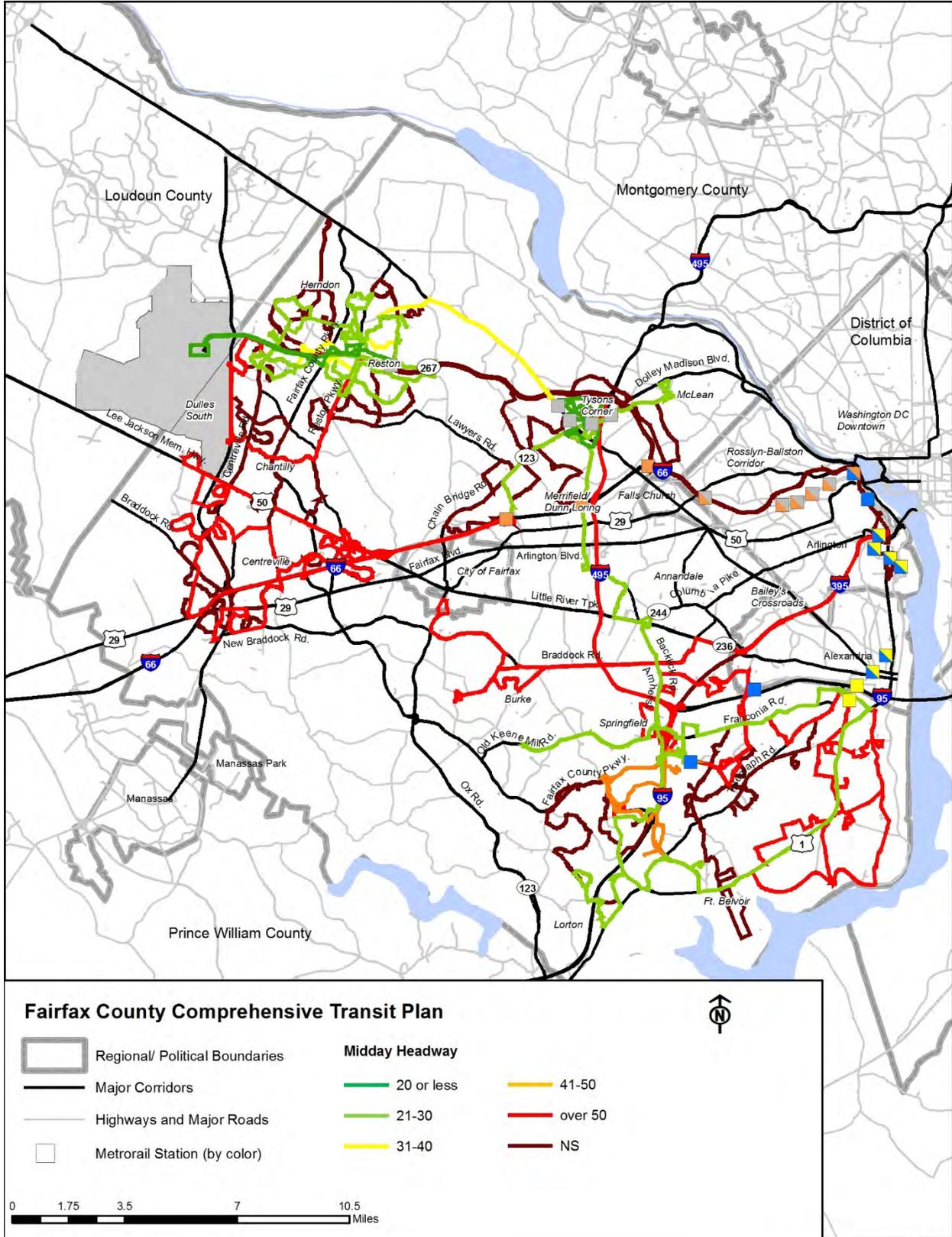
**Figure I-7: Fairfax Connector Routes by Midday Period Headway**



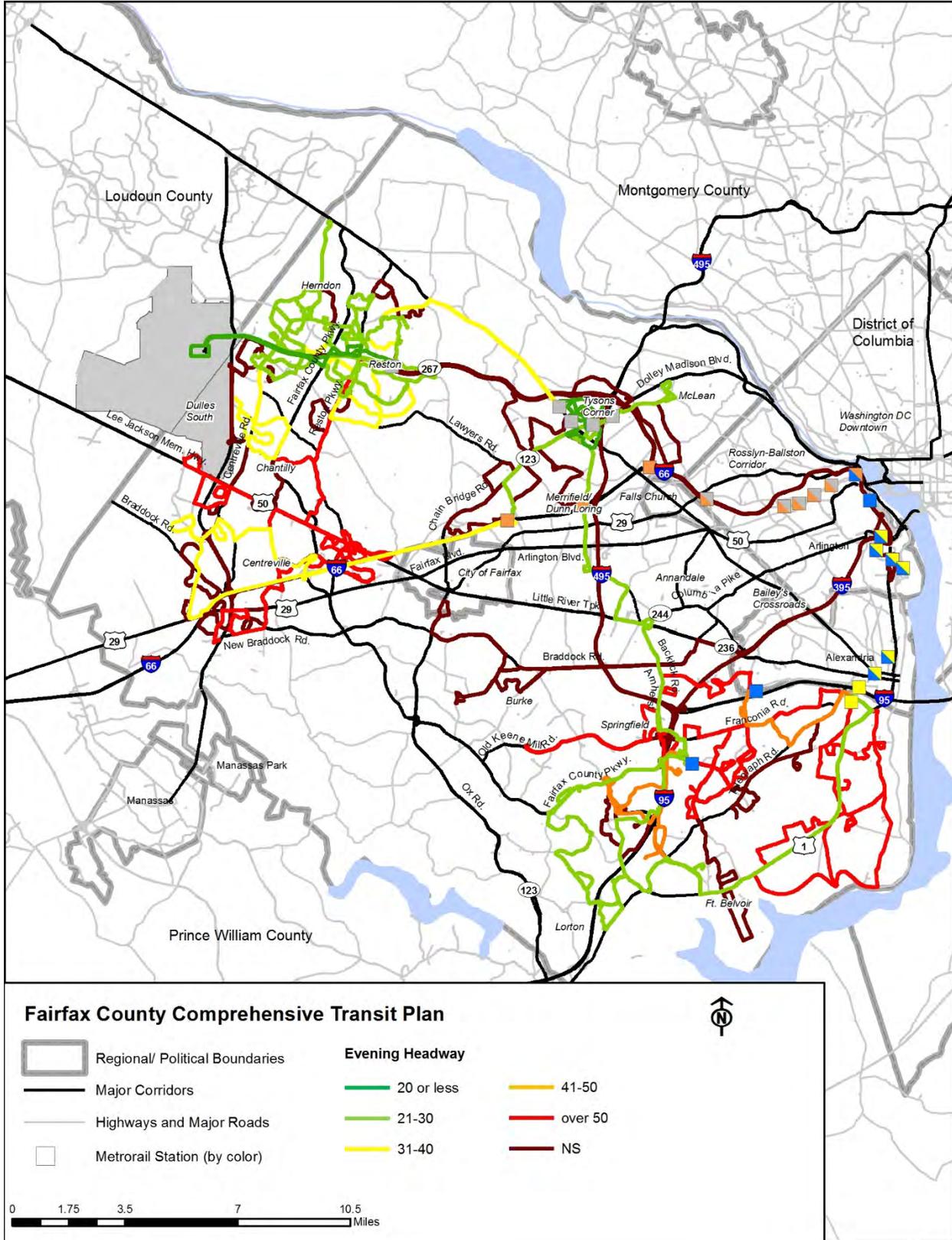
**Figure I-8: Fairfax Connector Routes by Evening Period Headway**



**Figure I-9: Fairfax Connector Middyay Headway**



**Figure I-10: Fairfax Connector Evening Headway**



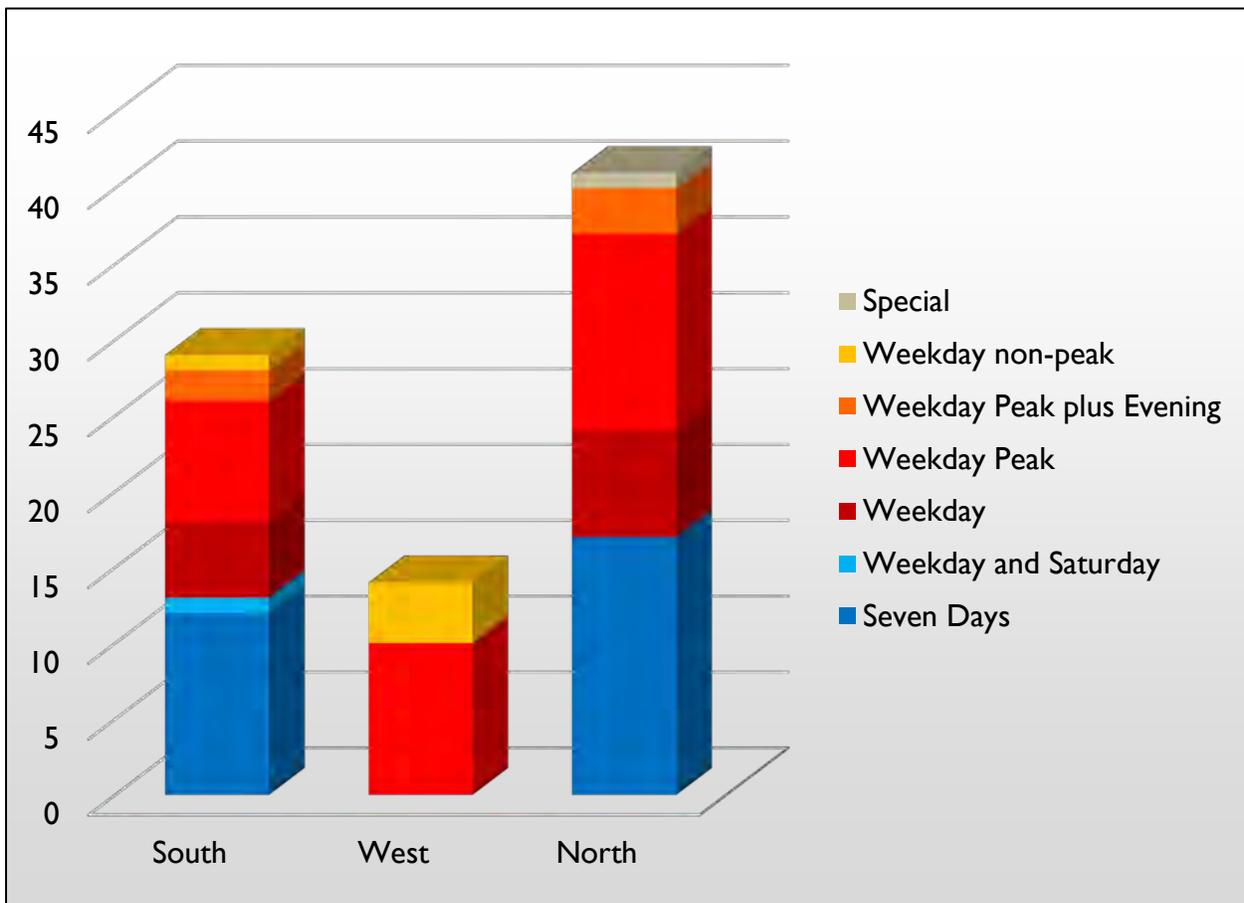
**Table I-11: Fairfax Connector Routes by Operating Period**

Operating Days	Service Area			System-wide
	South	West	North	
Seven Days*	12		17	29
Weekday and Saturday	1			1
Weekday – All Day	5		7	12
Weekday – Peak Only	8	10	13	31
Weekday Peak + Evening	2		3	5
Weekday Midday**	1	4		5
Special (no set operating period)			1	1
<b>TOTALS</b>	<b>29</b>	<b>14</b>	<b>41</b>	<b>84</b>

\* three seven-day routes (one South and two North) have no weekday peak service

\*\* all four weekday midday West Service Area routes also have weekday evening service

**Figure I-11: Fairfax Connector Routes by Operating Period**





**Table I-12: Fairfax Connector Operating Characteristics (Weekday)**

**South**

Number	Name	Span of Service		Headway			One-way Run Time
		Start	End	Peak	Midday	Evening	
101	Fort Hunt Road - Mount Vernon	4:26 AM	9:57 PM	30	60	60	28
109	Rose Hill	4:59 AM	11:32 PM	30	60	45	25
151	Woodlawn	5:00 AM	12:17 AM	30	60	60	40
152	Groveton - Mount Vernon	4:08 AM	11:57 PM	30	60	60	35
159	Engleside Limited Stop (p)	4:51 AM	7:46 PM	20	NS	NS	21(NB) 37(SB)
161	Hybla Valley Counter-Clockwise	4:34 AM	11:24 PM	30	60	60	46
162	Hybla Valley Clockwise	5:06 AM	10:59 PM	30	60	60	43
171	Richmond Highway	3:20 AM	3:20 AM	20	30	30	60
231	Kingstowne Counter-Clockwise (p)	4:50 AM	10:14 PM	30	NS	60	60
232	Kingstowne Clockwise (p)	4:39 AM	10:28 PM	30	NS	60	60
301	Telegraph Road Line (p)	5:40 AM	8:20 PM	30	NS	NS	44
305	Newington Forest - Silverbrook Road (p)	5:00 AM	9:43 PM	30	NS	NS	43
306	GMU - Pentagon	8:50 AM	3:48 PM	NS	60	NS	43
310	Franconia Road - Rolling Valley	4:22 AM	1:08 AM	20 to 30	30	60	60
321	Springfield Counter-Clockwise	4:02 AM	10:55 PM	30	60	60	80
322	Springfield Clockwise	4:10 AM	10:21 PM	30	60	60	77
333	Patriot Ridge - Saratoga Line	5:32 AM	10:14 PM	30	45	45	35
334	DLA Circulator	5:23 AM	11:15 PM	25	45	45	50
335	Fort Belvoir Eagle Express (p)	6:15 AM	6:59 PM	30	NS	NS	60
371	Lorton-Franconia Springfield Metro	4:02 AM	1:15 AM	NS	30	60	45
372	Lorton-Alban Rd (p)	6:01 AM	8:40 PM	30	NS	NS	30
373	Lorton-Fullerton Rd (p)	5:38 AM	7:58 PM	30	NS	NS	30
394	Saratoga-Pentagon Express (p)	5:20 AM	8:26 PM	40	NS	NS	48
395	Pentagon - Gambrill Road (p)	5:50 AM	7:45 PM	10 to 20	NS	NS	30
401	Backlick-Gallows Road NB	3:25 AM	2:27 AM	20	30	30	95
402	Backlick-Gallows Road SB	4:06 AM	2:27 AM	20	30	30	96
493	Express Connector Lorton VRE	5:30 AM	7:30 PM	20	40 to 180	NS	60
494	Express Connector Springfield	5:22 AM	7:30 PM	10 to 25	120	NS	55
495	Express Connector Burke VRE	5:35 AM	7:30 PM	15 to 30	60	NS	60

Data for September 2013 pick

(p) indicates that the route operates only during the morning and afternoon peaks.

## West

Number	Name	Span of Service		Headway			One-way Run Time
		Start / End	Peak / Midday / Evening	Peak	Midday	Evening	
466	Vienna - Oakton (p)	5:05 AM	8:41 PM	35	NS	NS	26
621	Penderbrook - Fairfax County Government Center	8:29 AM	10:54 PM	NS	60	60	60
622	Penderbrook - Fair Ridge (p)	5:16 AM	7:24 PM	30	NS	NS	40
623	Fairfax County Government Center (p)	4:46 AM	7:14 PM	30	NS	NS	40
630	Centreville South	9:15 AM	9:59 PM	NS	60	WB only, 50	50
631	Little Rocky Run (p)	4:18 AM	8:29 PM	35	NS	NS	50
632	Westfields Boulevard - Walney Road (p)	5:25 AM	8:10 PM	35	NS	NS	35
640	Stone Road - Westfields Boulevard	8:45 AM	10:01 PM	NS	60	40	30
641	Centreville South - United Methodist Church Park and Ride (p)	4:53 AM	8:46 PM	20	NS	NS	20 to 40
642	Sully Station (p)	4:47 AM	8:38 PM	30	NS	NS	20 to 60
644	Centreville Park and Ride (p)	5:45 AM	8:13 PM	25	NS	NS	20
650	Chantilly	8:40 AM	9:36 PM	NS	60	60	30
651	Chantilly - Brookfield (p)	4:57 AM	8:39 PM	35	NS	NS	20 to 60
652	Chantilly - Franklin Farm (p)	5:16 AM	8:10 PM	35	NS	NS	30 to 50

Data for September 2013 pick

(p) indicates that the route operates only during the morning and afternoon peaks.

## North

Number	Name	Span of Service		Headway		
		Start / End	Peak / Midday / Evening	Peak	Midday	Evening
422	South Tysons - Greensboro Station	5:30am	11:15pm	10	20	20
423	Central Tysons - Tysons Corner Station	5:35am	11:50pm	10	20	20
424	North Tysons - Spring Hill Station	5:30am	11:30pm	10	20	20
432	Old Courthouse - Beulah (p)	5:47am	7:20pm	40	NS	NS
461	Vienna - Flint Hill Tapawingo (p)	5:25am	7:58pm	20	NS	NS
462	Dunn Loring - Tysons - Navy Federal (p)	5:15am	7:38pm	30	NS	NS
463	Vienna-Tysons-Maple Avenue	5:30am	12:02am	20	30	30
480*	Wolf Trap Express	N/A	N/A	N/A	N/A	N/A
505	Reston Town Center - Wiehle	4:50am	12:48am	20	20	20
507	Sunrise Valley - Sunset Hills	5:12am	9:43pm	23	25	25
551	Reston South - Glade - South Lakes	4:30am	12:54am	15	30	30
552	North Shore - Lake Fairfax (p)	5:26am	7:22pm	18	NS	NS
553	Reston South - Viking - Pinecrest (p)	5:40am	7:45pm	18	NS	NS
554	Wiehle Avenue - Center Harbor (p)	5:40am	7:26pm	18	NS	NS

Number	Name	Span of Service		Headway		
		Start	End	Peak	Midday	Evening
557	Reston South – Soapstone (p)	5:55am	7:41pm	18	NS	NS
558	Center Harbor - Lake Fairfax	9:23am	10:50pm	NS	40	40
559	Reston South - Glade – Soapstone	8:40am	10:51pm	NS	40	40
574	Reston Town Center - Tysons	4:50am	10:26pm	30	40	40
585	Franklin Farm - Reston South - Wiehle- Reston East	5:00am	10:17pm	20	65	65
599	Pentagon - Crystal City Express (p)	5:45am	6:41pm	30	NS	NS
605	Fair Oaks - Reston	6:05 am	10:20 pm	60	60	60
721	Chain Bridge Road - McLean	6:00am	10:40pm	15	30	30
724	Lewinsville Road (p)	5:15am	7:41pm	30	NS	NS
734	McLean - West Falls Church (p)	6:00am	7:46pm	30	NS	NS
924	Herndon Parkway - Dranesville Road (p)	5:15am	9:28pm	30	NS	30
926	Worldgate - Dranesville Road (p)	5:55am	9:17pm	30	NS	30
927	South Herndon (p)	6:00am	7:26pm	30	NS	NS
928	Herndon Parkway – Elden (p)	6:15am	7:39pm	35	NS	NS
929	Centreville Road - McNair Farms (p)	5:05am	9:27pm	30-35	NS	30-35
937	Coppermine - Elden	6:00am	10:24pm	30	30	30
950	Herndon - Reston Town Center - Wiehle	4:12am	12:52am	20-30	20-30	20-30
951	Sunrise Valley	5:29am	10:31pm	30	40	40
952	Sunset Hills	5:09am	10:09pm	30	40	40
980	Herndon Monroe – Wiehle (p)	5:00am	8:50pm	10	NS	NS
981	Dulles Airport - Wiehle	5:00am	11:30pm	20	20	20
985	Dulles Discovery - Dulles Technology Drive	5:00am	7:40pm	20	70	NS
<b>RIBS 1</b>	Lake Anne - Hunter Woods	5:00am	1:00am	30	30	30
<b>RIBS 2</b>	South Lakes Drive	5:00am	1:00am	30	30	30
<b>RIBS 3</b>	Hunters Woods - Lake Anne	5:00am	1:00am	30	30	30
<b>RIBS 4</b>	North Point	5:00am	1:00am	30	30	30
<b>RIBS 5</b>	Herndon	6:25am	10:30pm	30	30	30

Data reflects service changes effective with the opening of the Silver Line

\* The 480 Route – Wolf Trap Express operates direct service from Metrorail to the Wolf Trap National Park for the Performing Arts on days when events occur. It has no set headway or span of service.

(p) indicates that the route operates only during the morning and afternoon peaks.

**Table I-13: Fairfax Connector Operating Characteristics (Saturday)**

**South**

Number	Name	Saturday Span of Service		Saturday Headway	One-way Run Time
		Start / End			
101	Fort Hunt Road - Mount Vernon	6:22 AM	10:25 PM	60	28
109	Rose Hill	6:30 AM	10:54 PM	60	24
151	Woodlawn	5:30 AM	12:22 AM	60	40
152	Groveton - Mount Vernon	5:45 AM	12:02 AM	60	45
161	Hybla Valley Counter-Clockwise	6:34 AM	10:55 PM	60	45
162	Hybla Valley Clockwise	6:36 AM	10:52 PM	60	40
171	Richmond Highway	5:27 AM	3:29 AM	35	60
310	Franconia Road - Rolling Valley	5:54 AM	12:54 AM	60	55
321	Springfield Counter-Clockwise	6:33 AM	11:17 PM	60	74
322	Springfield Clockwise	6:11 AM	11:35 PM	60	71
371	Lorton-Franconia Springfield Metro	5:26 AM	1:49 AM	50	45
401	Backlick-Gallows Road Northbound	4:25 AM	12:31 AM	30	46
402	Backlick-Gallows Road Southbound	5:30 AM	1:45 AM	30	60

Data for September 2013 pick

**North**

Number	Name	Span of Service		Saturday Headway
		Start	End	
423	Central Tysons - Tysons Corner Station	6:00am	10:20pm	30
463	Vienna-Tysons-Maple Avenue	6:00am	11:27pm	60
505	Reston Town Center - Wiehle	7:10am	12:18am	20
551	Reston South - Glade - South Lakes	6:30am	12:24am	30
558	Center Harbor - Lake Fairfax	7:10am	12:15am	40
559	Reston South - Glade - Soapstone	7:00am	12:24am	40
574	Reston Town Center - Tysons	6:00am	12:27am	40
605	Fair Oaks - Reston	7:10am	8:03pm	60
721	Chain Bridge Road - McLean	6:00am	10:40pm	30-35
937	Coppermine - Elden	8:00am	8:19pm	30
950	Herndon - Reston Town Center - Wiehle	6:00am	12:51am	30
981	Dulles Airport - Wiehle	5:55am	11:30pm	20
RIBS 1	Lake Anne - Hunter Woods	6:00am	12:00am	30
RIBS 2	South Lakes Drive	6:00am	12:00am	30
RIBS 3	Hunters Woods - Lake Anne	6:00am	12:00am	30
RIBS 4	North Point	6:00am	12:00am	30
RIBS 5	Herndon	6:30am	10:00pm	45

Data reflects service changes effective with the opening of the Silver Line

**Table I-14: Fairfax Connector Operating Characteristics (Sunday)**

**South**

Number	Name	Sunday Span of Service		Sunday Headway	One-way Run Time
		Start / End			
101	Fort Hunt Road - Mount Vernon	6:22 AM	8:19 PM	60	28
151	Woodlawn	5:30 AM	12:22 AM	60	43
152	Groveton - Mount Vernon	5:45 AM	12:02 AM	60	44
161	Hybla Valley Counter-Clockwise	6:34 AM	10:55 PM	60	46
162	Hybla Valley Clockwise	6:36 AM	10:52 PM	60	40
171	Richmond Highway	5:27 AM	1:29 AM	30	60
310	Franconia Road - Rolling Valley	5:54 AM	11:54 AM	60	56
321	Springfield Counter-Clockwise	6:03 AM	11:17 PM	60	74
322	Springfield Clockwise	6:24 AM	11:35 PM	60	71
371	Lorton-Franconia Springfield Metro	5:26 AM	12:50 AM	50	50
401	Backlick-Gallows Road Northbound	4:25 AM	12:31 AM	30	52
402	Backlick-Gallows Road Southbound	5:30 AM	1:45 AM	30	65

Data for September 2013 pick

**North**

Number	Name	Span of Service		Sunday Headway
		Start	End	
423	Central Tysons - Tysons Corner Station	6:00am	8:05pm	30
463	Vienna-Tysons-Maple Avenue	8:00am	8:27pm	60
505	Reston Town Center - Wiehle	7:00am	9:18pm	20
551	Reston South - Glade - South Lakes	6:30am	9:24pm	30
558	Center Harbor - Lake Fairfax	7:10am	12:15am	40
559	Reston South - Glade - Soapstone	7:00am	12:24am	40
574	Reston Town Center - Tysons	6:00am	8:27pm	40
605	Fair Oaks - Reston	8:10am	7:02pm	60
721	Chain Bridge Road - McLean	8:00am	8:40pm	30-35
937	Coppermine - Elden	8:00am	6:49pm	30
950	Herndon - Reston Town Center - Wiehle	6:00am	12:51am	30
981	Dulles Airport - Wiehle	5:55am	11:30pm	40
RIBS 1	Lake Anne - Hunter Woods	5:00am	9:00pm	60
RIBS 2	South Lakes Drive	5:00am	9:00pm	60
RIBS 3	Hunters Woods - Lake Anne	5:00am	9:00pm	60
RIBS 4	North Point	5:00am	9:00pm	60
RIBS 5	Herndon	6:30am	8:00pm	60

Data reflects service changes effective with the opening of the Silver Line

---

## I.4 Service Performance

### I.4.1. Service Consumption and Financial Statistics

Service consumption and financial statistics provide information on how much a service is used and the cost effectiveness of the service. The tables below provide detailed information on how many people ride each route and the cost and revenue for each using the following terms.

Ridership: The number of boardings on each route.

Farebox Revenue: The value of cash, tickets, and pass receipts provided by passengers as payment for public transit rides. The County does not track revenue on a route-by-route basis, but does have revenue totals by service area. For the purposes of the CTP, the service area's average fare is used to calculate revenue by route. In other words, farebox revenue is calculated by taking the total farebox revenue of a particular service area and dividing it by the total ridership of the service area, then taking that average and multiplying it by the total route ridership to find the estimated farebox revenue per route.

Operating Costs: Operating costs include salary and benefits for drivers, fuel, maintenance expenses, and management by the County's contractor. They do not include administrative costs incurred by County staff. For the purposes of the CTP, the service area's average cost per revenue-hour is used to calculate operating cost by route. In other words, operating cost is calculated by taking the total operating cost of a particular service area and dividing it by the total revenue hours operated by the service area, then taking that average and multiplying it by the revenue hours for each route to find the estimated operating cost per route. The County's contract with the operator is based on revenue hours operated.

Farebox Recovery Ratio: Farebox revenue divided by operating cost for each route.

Net cost per passenger: Operating cost minus revenue for each route divided by the ridership on that route.

Table I-15 shows these data for fiscal year 2013, while Table I-16 through Table I-18 show the data for an average weekday, Saturday and Sunday during that same year. Note that the data presented in this section encompasses the South and West Service Areas only. North service area routes are poised to change comprehensively with the opening of the Metrorail Silver Line later in 2014. All North Service Area routes will be modified as a part of the Silver Line Service Plan, with most routes being significantly re-routed and several new routes being added. As such, ridership and revenue data on the routes as currently configured would be immaterial to an assessment of Fairfax Connector operations. A separate analysis with average weekday, Saturday and Sunday ridership and revenue data for North County routes, based on the first quarter of operation for the revised routes, will be produced at a later date.

**Table I-15: Fairfax Connector Ridership and Financial Statistics (Annual)**

**South**

Number	Name	Ridership	Farebox Revenue	Operating Cost	Farebox Recovery Ratio	Net Cost per Passenger
101	Fort Hunt Road - Mount Vernon	174,444	\$181,422	\$1,063,181	0.17	\$6.09
109	Rose Hill	147,331	\$153,224	\$1,045,102	0.15	\$7.09
151	Woodlawn	384,829	\$400,222	\$1,696,121	0.24	\$4.41
152	Groveton - Mount Vernon	176,222	\$183,271	\$1,510,662	0.12	\$8.57
159	Engleside Limited Stop	133,290	\$138,622	\$753,989	0.18	\$5.66
161	Hybla Valley Counter-Clockwise	156,753	\$163,023	\$857,218	0.19	\$5.47
162	Hybla Valley Clockwise	117,145	\$121,831	\$710,749	0.17	\$6.07
171	Richmond Highway	1,057,991	\$1,100,311	\$3,740,742	0.29	\$3.54
231	Kingstowne Counter-Clockwise	53,998	\$56,158	\$486,819	0.12	\$9.02
232	Kingstowne Clockwise	58,013	\$60,334	\$534,363	0.11	\$9.21
301	Telegraph Road Line	52,560	\$54,662	\$539,368	0.10	\$10.26
305	Newington Forest - Silverbrook Road	48,839	\$50,793	\$627,178	0.08	\$12.84
306	GMU - Pentagon	41,407	\$57,556	\$268,966	0.21	\$6.50
310	Franconia Road - Rolling Valley	494,067	\$686,753	\$2,884,005	0.24	\$5.84
321	Springfield Counter-Clockwise	256,066	\$266,309	\$1,294,209	0.21	\$5.05
322	Springfield Clockwise	193,451	\$201,189	\$1,181,824	0.17	\$6.11
333	Patriot Ridge - Saratoga Line	61,545	\$64,007	\$481,132	0.13	\$7.82
334	DLA Circulator	36,020	\$37,461	\$704,750	0.05	\$19.57
335	Fort Belvoir Eagle Express	48,049	\$49,971	\$374,013	0.13	\$7.78
371	Lorton-Franconia Springfield	236,404	\$245,860	\$893,108	0.28	\$3.78
372	Lorton-Alban Rd	20,687	\$21,514	\$388,545	0.06	\$18.78
373	Lorton-Fullerton Rd	22,357	\$23,251	\$380,583	0.06	\$17.02
394	Saratoga-Pentagon Express	9,914	\$10,311	\$351,264	0.03	\$35.43
395	Pentagon - Gambrill Road	104,764	\$108,955	\$527,311	0.21	\$5.03
401	Backlick-Gallows Road NB	839,631	\$873,216	\$2,485,915	0.35	\$2.96
402	Backlick-Gallows Road SB	490,363	\$509,978	\$2,717,938	0.19	\$5.54
493	Express Connector Lorton VRE	1,178	\$1,637	\$687,509	0.00	\$583.62
494	Express Connector Springfield	2,372	\$3,297	\$748,565	0.00	\$315.58
495	Express Connector Burke VRE	1,910	\$2,655	\$770,128	0.00	\$403.21
<b>SERVICE AREA TOTAL</b>		<b>5,421,600</b>	<b>\$5,827,791</b>	<b>\$31,126,503</b>	<b>0.19</b>	<b>\$5.74</b>

Data for Fiscal Year 2013

## West

Number	Name	Ridership	Farebox Revenue	Operating Cost	Farebox Recovery Ratio	Net Cost per Passenger
466	Vienna - Oakton	54,421	\$75,645	\$222,890	0.34	\$4.10
621	Penderbrook - Fairfax County Government Center	62,388	\$86,719	\$393,122	0.22	\$6.30
622	Penderbrook - Fair Ridge	56,096	\$77,973	\$280,769	0.28	\$5.01
623	Fairfax County Government Center	110,767	\$153,966	\$341,598	0.45	\$3.08
630	Centreville South	45,673	\$63,485	\$370,878	0.17	\$8.12
631	Little Rocky Run	106,964	\$148,680	\$369,743	0.40	\$3.46
632	Westfields Boulevard - Walney Road	112,842	\$156,850	\$428,530	0.37	\$3.80
640	Stone Road - Westfields Boulevard	23,806	\$33,090	\$280,996	0.12	\$11.80
641	Centreville South - United Methodist Church Park and Ride	69,302	\$96,330	\$467,116	0.21	\$6.74
642	Sully Station	112,971	\$157,030	\$521,817	0.30	\$4.62
644	Centreville Park and Ride	102,088	\$141,902	\$442,375	0.32	\$4.33
650	Chantilly	55,415	\$77,027	\$315,950	0.24	\$5.70
651	Chantilly - Brookfield	64,437	\$89,567	\$409,464	0.22	\$6.35
652	Chantilly - Franklin Farm	81,985	\$113,959	\$413,776	0.28	\$5.05
<b>SERVICE AREA TOTAL</b>		<b>1,059,155</b>	<b>\$1,472,225</b>	<b>\$5,259,022</b>	<b>0.28</b>	<b>\$4.97</b>

Data for Fiscal Year 2013

**Table I-16: Fairfax Connector Route Ridership and Financial Statistics (Weekday)**

**South**

Number	Name	Ridership	Farebox Revenue	Operating Cost	Farebox Recovery Ratio	Net Cost per Passenger
101	Fort Hunt Road – Mount Vernon	578	\$601	\$3,431	0.18	\$5.94
109	Rose Hill	538	\$560	\$3,792	0.15	\$7.05
151	Woodlawn	1,240	\$1,290	\$5,647	0.23	\$4.55
152	Groveton - Mount Vernon	570	\$593	\$4,857	0.12	\$8.52
159	Engleside Limited Stop	523	\$544	\$2,957	0.18	\$5.66
161	Hybla Valley Counter-Clockwise	523	\$544	\$2,683	0.20	\$5.13
162	Hybla Valley Clockwise	398	\$414	\$2,206	0.19	\$5.54
171	Richmond Highway	3,244	\$3,374	\$11,195	0.30	\$3.45
231	Kingstowne Counter-Clockwise	212	\$220	\$1,909	0.12	\$9.02
232	Kingstowne Clockwise	228	\$237	\$2,096	0.11	\$9.21
301	Telegraph Road Line	206	\$214	\$2,115	0.10	\$10.26
305	Newington Forest - Silverbrook Road	192	\$199	\$2,460	0.08	\$12.84
306	GMU - Pentagon	162	\$226	\$1,055	0.21	\$6.50
310	Franconia Road - Rolling Valley	1,650	\$2,294	\$9,315	0.25	\$5.64
321	Springfield Counter-Clockwise	826	\$859	\$4,203	0.20	\$5.09
322	Springfield Clockwise	694	\$721	\$3,593	0.20	\$5.18
333	Patriot Ridge - Saratoga Line	241	\$251	\$1,887	0.13	\$7.82
334	DLA Circulator	141	\$147	\$2,764	0.05	\$19.57
335	Fort Belvoir Eagle Express	188	\$196	\$1,496	0.13	\$7.94
371	Lorton-Franconia Springfield Metro	772	\$802	\$3,502	0.23	\$4.54
372	Lorton-Alban Rd	81	\$84	\$1,524	0.06	\$18.78
373	Lorton-Fullerton Rd	88	\$91	\$1,524	0.06	\$17.38
394	Saratoga-Pentagon Express	40	\$41	\$1,405	0.03	\$35.43
395	Pentagon - Gambrell Road	419	\$436	\$2,068	0.21	\$4.93
401	Backlick-Gallows Road Northbound	2,683	\$2,790	\$8,046	0.35	\$3.00
402	Backlick-Gallows Road Southbound	1,572	\$1,635	\$8,619	0.19	\$5.48
493	Express Connector Lorton VRE	5	\$6	\$2,696	0.00	\$583.62
494	Express Connector Springfield	9	\$13	\$2,936	0.00	\$315.58
495	Express Connector Burke VRE	7	\$10	\$3,020	0.00	\$403.21
<b>SERVICE AREA TOTAL</b>		<b>18,029</b>	<b>\$19,393</b>	<b>\$105,000</b>	<b>0.18</b>	<b>\$5.82</b>

Data for Fiscal Year 2013

## West

Number	Name	Ridership	Farebox Revenue	Operating Cost	Farebox Recovery Ratio	Net Cost per Passenger
466	Vienna - Oakton	213	\$297	\$874	0.34	\$4.10
621	Penderbrook - Fairfax County Government Center	245	\$340	\$1,542	0.22	\$6.30
622	Penderbrook - Fair Ridge	220	\$306	\$1,101	0.28	\$5.01
623	Fairfax County Government Center	434	\$604	\$1,340	0.45	\$3.08
630	Centreville South	179	\$249	\$1,454	0.17	\$8.12
631	Little Rocky Run	419	\$583	\$1,450	0.40	\$3.46
632	Westfields Boulevard - Walney Road	443	\$615	\$1,681	0.37	\$3.80
640	Stone Road - Westfields Boulevard	93	\$130	\$1,102	0.12	\$11.80
641	Centreville South - United Methodist Church Park and Ride	272	\$378	\$1,832	0.21	\$6.74
642	Sully Station	443	\$616	\$2,046	0.30	\$4.62
644	Centreville Park and Ride	400	\$556	\$1,735	0.32	\$4.33
650	Chantilly	217	\$302	\$1,239	0.24	\$5.70
651	Chantilly - Brookfield	253	\$351	\$1,606	0.22	\$6.35
652	Chantilly - Franklin Farm	322	\$447	\$1,623	0.28	\$5.05
<b>SERVICE AREA TOTAL</b>		<b>4,154</b>	<b>\$5,773</b>	<b>\$20,624</b>	<b>0.28</b>	<b>\$4.97</b>

Data for Fiscal Year 2013

**Table I-17: Fairfax Connector Route Ridership and Financial Statistics (Saturday)**

**South**

Number	Name	Ridership	Farebox Revenue	Operating Cost	Farebox Recovery Ratio	Net Cost per Passenger
101	Fort Hunt Road - Mount Vernon	303	\$316	\$2,193	0.14	\$7.22
109	Rose Hill	191	\$198	\$1,473	0.13	\$7.73
151	Woodlawn	715	\$743	\$2,327	0.32	\$3.26
152	Groveton - Mount Vernon	306	\$318	\$2,474	0.13	\$8.08
161	Hybla Valley Counter-Clockwise	265	\$275	\$1,583	0.17	\$5.98
162	Hybla Valley Clockwise	137	\$142	\$1,347	0.11	\$9.87
171	Richmond Highway	2,213	\$2,301	\$8,254	0.28	\$3.73
310	Franconia Road - Rolling Valley	769	\$1,069	\$4,787	0.22	\$6.22
321	Springfield Counter-Clockwise	468	\$486	\$2,098	0.23	\$4.49
322	Springfield Clockwise	292	\$304	\$2,506	0.12	\$8.58
371	Lorton-Franconia Springfield Metro	450	\$468	\$4,368	0.11	\$9.70
401	Backlick-Gallows Road Northbound	1,590	\$1,653	\$3,940	0.42	\$2.48
402	Backlick-Gallows Road Southbound	944	\$1,312	\$4,730	0.28	\$5.01
<b>SERVICE AREA TOTAL</b>		<b>8,642</b>	<b>\$9,587</b>	<b>\$42,079</b>	<b>0.23</b>	<b>\$4.87</b>

*Data for Fiscal Year 2013*

**Table I-18: Fairfax Connector Route Ridership and Financial Statistics (Sunday)**

**South**

<b>Number</b>	<b>Name</b>	<b>Ridership</b>	<b>Farebox Revenue</b>	<b>Operating Cost</b>	<b>Farebox Recovery Ratio</b>	<b>Net Cost per Passenger</b>
101	Fort Hunt Road - Mount Vernon	193	\$200	\$1,264	0.16	\$6.56
151	Woodlawn	539	\$560	\$2,327	0.24	\$4.32
152	Groveton - Mount Vernon	256	\$267	\$2,474	0.11	\$9.65
161	Hybla Valley Counter-Clockwise	166	\$172	\$1,567	0.11	\$9.46
162	Hybla Valley Clockwise	148	\$154	\$1,347	0.11	\$9.08
171	Richmond Highway	1,991	\$2,070	\$7,718	0.27	\$3.88
310	Franconia Road - Rolling Valley	570	\$793	\$4,473	0.18	\$7.84
321	Springfield Counter-Clockwise	361	\$376	\$2,098	0.18	\$5.81
322	Springfield Clockwise	19	\$20	\$2,506	0.01	\$131.16
371	Lorton-Franconia Springfield Metro	277	\$288	\$3,325	0.09	\$12.01
401	Backlick-Gallows Road Northbound	1,251	\$1,301	\$3,953	0.33	\$3.16
402	Backlick-Gallows Road Southbound	691	\$719	\$4,726	0.15	\$6.84
<b>SERVICE AREA TOTAL</b>		<b>6,462</b>	<b>\$6,920</b>	<b>\$37,779</b>	<b>0.18</b>	<b>\$5.85</b>

---

## **I.4.2. Service Effectiveness Measures**

Service effectiveness measures indicate the productivity of the transit system. Effectiveness measures for the Connector include passenger trips per revenue mile, passenger trips per revenue hour, and passengers per vehicle trip. In all measures larger numbers indicate better performing routes. Passenger trips per revenue mile and revenue hour are primary indicators of route performance; they are direct indicators of service effectiveness and a strong indicator of cost effectiveness, as passengers are the primary determinant of fare revenue, and miles and hours are the primary determinant of costs. Both measures can be easily measured with a high degree of accuracy. Productivity per revenue mile tends to be the most appropriate measure for routes that operate in dense urban environments where bus speeds tend to be slow due to traffic congestion. Productivity per hour tends to be the most appropriate measure for routes in areas or at times where traffic congestion is not as prevalent.

Passengers per vehicle trip is also a measure of how productive a transit system is in terms of ridership per unit of service operated. However, this figure can sometimes be misleading, or at least require more careful interpretation. For example, some routes are loops, which means that a one-way trip is essentially a round-trip. To provide a more fair comparison with linear routes, the number of trips operated by loop routes should arguably be multiplied by two, cutting the productivity per trip in half. In another case, some routes have peak-direction only service (deadheading back to the end of the line) while others operate in both directions (carrying few passengers in the reverse peak direction). The peak-only service will have higher productivity per trip since it operates only half as many revenue trips and most of those will be full, but it will be nearly as expensive to operate as bidirectional service. Thus, the results of ridership per trip should be viewed carefully, understanding how the route actually operates in comparison to other routes.

Note that the data presented in this section encompasses the South and West Service Areas only. North Service Area routes are poised to change comprehensively with the opening of the Metrorail Silver Line later in 2014. All North Service Area routes will be modified as a part of the Silver Line Service Plan, with most routes being significantly re-routed and several new routes being added. As such, performance data on the routes as currently configured would be immaterial to an assessment of Fairfax Connector operations, and there are no performance data for the new service configuration.

Table I-19 shows these data for fiscal year 2013, while Table I-20 through Table I-22 show the data for an average weekday, Saturday and Sunday during that same year. As explained above, the data presented here is only for the South and West Service Areas.

Figure I-13 through Figure I-15 show the productivity achieved by South and West Service Area routes in FY 2013 in terms of passengers per revenue mile for weekdays, Saturdays and Sundays, respectively. Figure I-16 through Figure I-18 show the productivity achieved in terms of passengers per revenue hour. Where multiple routes overlap on the same roadway, the best-performing route is shown. By both measures, the highest performing corridors are the US1 corridor and the Backlick Road/Gallows Road corridor, both of which feature numerous small activity centers evenly spaced throughout the corridor. The lowest performing corridor seems to be the I-495 (Beltway HOT lanes) corridor, although it should be noted that the routes in operation there are express routes that lack opportunities for turnover of the passenger load. These routes also tend to operate deadhead on their return trips in the non-peak service direction, adding many miles without passenger boardings. Figure I-19 through Figure I-21 show the productivity achieved in terms of passengers per revenue trip.

**Table I-19: Fairfax Connector Route Productivity Statistics (Annual)**

**South**

Number	Name	Ridership	Passengers/ Revenue Mile	Passengers/ Revenue Hour	Passengers/ Trip
101	Fort Hunt Road - Mount Vernon	174,444	0.92	14.6	8.9
109	Rose Hill	147,331	1.29	12.6	8.3
151	Woodlawn	384,829	1.16	20.2	18.5
152	Groveton - Mount Vernon	176,222	*	10.4	9.4
159	Engleside Limited Stop	133,290	*	15.8	16.9
161	Hybla Valley Counter-Clockwise	156,753	1.57	16.3	16.9
162	Hybla Valley Clockwise	117,145	1.18	14.7	13.0
171	Richmond Highway	1,057,991	2.04	25.2	30.7
231	Kingstowne Loop Counter-Clockwise	53,998	0.72	9.9	9.6
232	Kingstowne Loop Clockwise	58,013	0.71	9.7	9.5
301	Telegraph Road Line	52,560	0.69	8.7	7.9
305	Newington Forest - Silverbrook Road	48,839	0.41	7.0	5.6
306	GMU - Pentagon	41,407	0.66	13.7	13.5
310	Franconia Road - Rolling Valley	494,067	1.28	15.3	18.6
321	Springfield Loop Counter-Clockwise	256,066	1.39	17.5	26.6
322	Springfield Loop Clockwise	193,451	1.13	14.5	21.2
333	Patriot Ridge - Saratoga Line	61,545	0.78	11.4	7.5
334	DLA Circulator	36,020	0.30	4.6	4.4
335	Fort Belvoir Eagle Express	48,049	0.75	11.5	13.5
371	Lorton-Franconia Springfield Metro	236,404	1.17	16.0	15.3
372	Lorton-Alban Rd	20,687	0.32	4.7	2.9
373	Lorton-Fullerton Rd	22,357	0.31	5.1	3.0
394	Saratoga-Pentagon Express	9,914	0.10	2.5	2.8
395	Pentagon - Gambrill Road	104,764	0.78	17.7	18.7
401	Backlick-Gallows Road Northbound	839,631	2.60	30.1	45.3
402	Backlick-Gallows Road Southbound	490,363	1.43	16.1	24.9
493	Express Connector Lorton VRE	1,178	0.01	0.2	0.2
494	Express Connector Springfield	2,372	0.01	0.3	0.3
495	Express Connector Burke VRE	1,910	0.01	0.2	0.3
<b>SERVICE AREA TOTAL</b>		<b>5,421,600</b>	<b>1.12</b>	<b>15.5</b>	<b>16.5</b>

Data for Fiscal Year 2013

\* Interlined with route immediately above

## West

Number	Name	Ridership	Passengers/ Revenue Mile	Passengers/ Revenue Hour	Passengers/ Trip
466	Vienna - Oakton	54,421	1.65	21.7	11.9
621	Penderbrook - Fairfax County Government Center	62,388	0.81	14.1	12.9
622	Penderbrook - Fair Ridge	56,096	1.07	17.8	14.7
623	Fairfax County Government Center	110,767	1.71	28.9	21.7
630	Centreville South	45,673	0.67	11.0	11.2
631	Little Rocky Run	106,964	1.32	25.8	24.7
632	Westfields Boulevard - Walney Road	112,842	1.20	23.4	15.8
640	Stone Road - Westfields Boulevard	23,806	0.30	7.5	4.7
641	Centreville South - United Methodist Church Park and Ride	69,302	0.58	13.2	7.5
642	Sully Station	112,971	0.92	19.3	15.8
644	Centreville Park and Ride	102,088	1.17	20.5	17.4
650	Chantilly	55,415	0.77	15.6	10.3
651	Chantilly - Brookfield	64,437	0.82	14.0	11.0
652	Chantilly - Franklin Farm	81,985	1.02	17.6	13.4
<b>SERVICE AREA TOTAL</b>		<b>1,059,155</b>	<b>0.95</b>	<b>17.9</b>	<b>13.5</b>

Data for Fiscal Year 2013

**Table I-20: Fairfax Connector Route Productivity Statistics (Weekday)**

**South**

Number	Name	Ridership	Passengers/ Revenue Mile	Passengers/ Revenue Hour	Passengers/ Trip
101	Fort Hunt Road - Mount Vernon	578	0.99	15.0	9.5
109	Rose Hill	538	1.34	12.7	8.5
151	Woodlawn	1,240	0.63	19.6	18.8
152	Groveton - Mount Vernon	570	0.29	10.5	9.8
159	Engleside Limited Stop	523	0.27	15.8	16.9
161	Hybla Valley Counter-Clockwise	523	1.68	17.4	18.0
162	Hybla Valley Clockwise	398	1.29	16.1	14.2
171	Richmond Highway	3,244	2.11	25.9	31.8
231	Kingstowne Loop Counter-Clockwise	212	0.72	9.9	9.6
232	Kingstowne Loop Clockwise	228	0.71	9.7	9.5
301	Telegraph Road Line	206	0.69	8.7	7.9
305	Newington Forest - Silverbrook Road	192	0.41	6.9	5.6
306	GMU – Pentagon	162	0.66	13.7	13.5
310	Franconia Road – Rolling Valley	1,650	1.29	15.8	18.8
321	Springfield Loop Counter-Clockwise	826	1.44	17.5	27.5
322	Springfield Loop Clockwise	694	1.32	17.2	24.8
333	Patriot Ridge - Saratoga Line	241	0.78	11.4	7.5
334	DLA Circulator	141	0.30	4.6	4.4
335	Fort Belvoir Eagle Express	188	0.74	11.2	13.5
371	Lorton-Franconia Springfield Metro	772	1.44	19.7	19.8
372	Lorton-Alban Rd	81	0.32	4.7	2.9
373	Lorton-Fullerton Rd	88	0.31	5.1	3.0
394	Saratoga-Pentagon Express	40	0.10	2.5	2.8
395	Pentagon - Gambrill Road	419	0.78	18.1	19.0
401	Backlick-Gallows Road Northbound	2,683	2.66	29.7	46.3
402	Backlick-Gallows Road Southbound	1,572	1.47	16.3	25.4
493	Express Connector Lorton VRE	5	0.01	0.2	0.2
494	Express Connector Springfield	9	0.01	0.3	0.3
495	Express Connector Burke VRE	7	0.01	0.2	0.3
<b>SERVICE AREA TOTAL</b>		<b>18,029</b>	<b>1.10</b>	<b>15.3</b>	<b>16.2</b>

Data for Fiscal Year 2013

## West

Number	Name	Ridership	Passengers/ Revenue Mile	Passengers/ Revenue Hour	Passengers/ Trip
466	Vienna - Oakton	213	1.65	21.7	11.9
621	Penderbrook - Fairfax County Government Center	245	0.81	14.1	12.9
622	Penderbrook - Fair Ridge	220	1.07	17.8	14.7
623	Fairfax County Government Center	434	1.71	28.9	21.7
630	Centreville South	179	0.67	11.0	11.2
631	Little Rocky Run	419	1.32	25.7	24.7
632	Westfields Boulevard - Walney Road	443	1.20	23.4	15.8
640	Stone Road - Westfields Boulevard	93	0.30	7.5	4.7
641	Centreville South - United Methodist Church Park and Ride	272	0.58	13.2	7.5
642	Sully Station	443	0.92	19.3	15.8
644	Centreville Park and Ride	400	1.17	20.5	17.4
650	Chantilly	217	0.77	15.6	10.3
651	Chantilly - Brookfield	253	0.82	14.0	11.0
652	Chantilly - Franklin Farm	322	1.02	17.6	13.4
<b>SERVICE AREA TOTAL</b>		<b>4,154</b>	<b>0.95</b>	<b>17.9</b>	<b>13.5</b>

Data for Fiscal Year 2013

**Table I-21: Fairfax Connector Route Productivity Statistics (Saturday)**

**South**

Number	Name	Ridership	Passengers/ Revenue Mile	Passengers/ Revenue/ Hour	Passengers/ Trip
101	Fort Hunt Road - Mount Vernon	304	0.66	12.4	6.3
109	Rose Hill	191	0.89	11.5	5.8
151	Woodlawn	715	1.69	27.4	19.9
152	Groveton - Mount Vernon	306	0.68	11.0	8.5
161	Hybla Valley Counter-Clockwise	265	0.85	8.8	15.6
162	Hybla Valley Clockwise	137	0.44	5.5	8.0
171	Richmond Highway	2,213	1.85	23.9	27.7
310	Franconia Road - Rolling Valley	769	1.41	14.3	20.2
321	Springfield Loop Counter-Clockwise	468	0.81	9.9	26.0
322	Springfield Loop Clockwise	292	0.55	7.3	16.2
371	Lorton-Franconia Springfield Metro	450	0.68	9.2	7.9
401	Backlick-Gallows Road Northbound	1,590	1.58	17.6	46.8
402	Backlick-Gallows Road Southbound	944	0.88	9.8	27.0
<b>SERVICE AREA TOTAL</b>		<b>8,642</b>	<b>1.39</b>	<b>18.3</b>	<b>18.5</b>

*Data for Fiscal Year 2013*

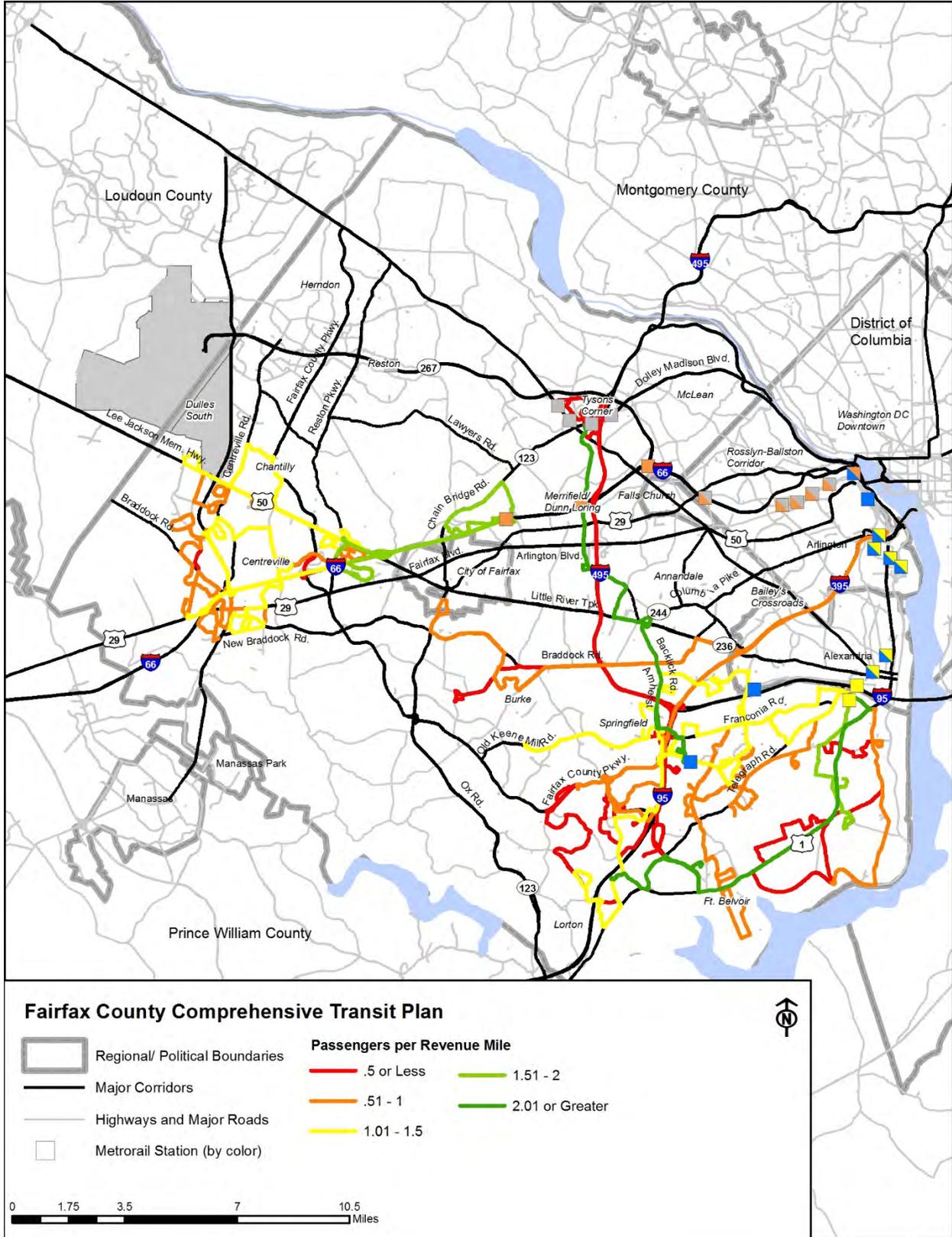
**Table I-22: Fairfax Connector Route Productivity Statistics (Sunday)**

**South**

Number	Name	Ridership	Passengers/ Revenue Mile	Passengers/ Revenue Hour	Passengers/ Trip
101	Fort Hunt Road - Mount Vernon	193	0.72	13.6	6.9
151	Woodlawn	539	1.27	20.6	15.0
152	Groveton - Mount Vernon	256	0.57	9.2	7.1
161	Hybla Valley Counter-Clockwise	166	0.90	9.4	9.7
162	Hybla Valley Clockwise	148	0.80	9.8	8.7
171	Richmond Highway	1,991	1.80	23.0	26.9
310	Franconia Road - Rolling Valley	570	1.12	11.4	15.8
321	Springfield Loop Counter-Clockwise	361	1.07	15.4	20.1
322	Springfield Loop Clockwise	19	0.06	0.7	1.1
371	Lorton-Franconia Springfield Metro	277	0.54	7.4	6.3
401	Backlick-Gallows Road Northbound	1,251	2.08	28.2	36.8
402	Backlick-Gallows Road Southbound	691	1.11	13.0	19.7
<b>SERVICE AREA TOTAL</b>		<b>6,462</b>	<b>1.17</b>	<b>15.3</b>	<b>16.4</b>

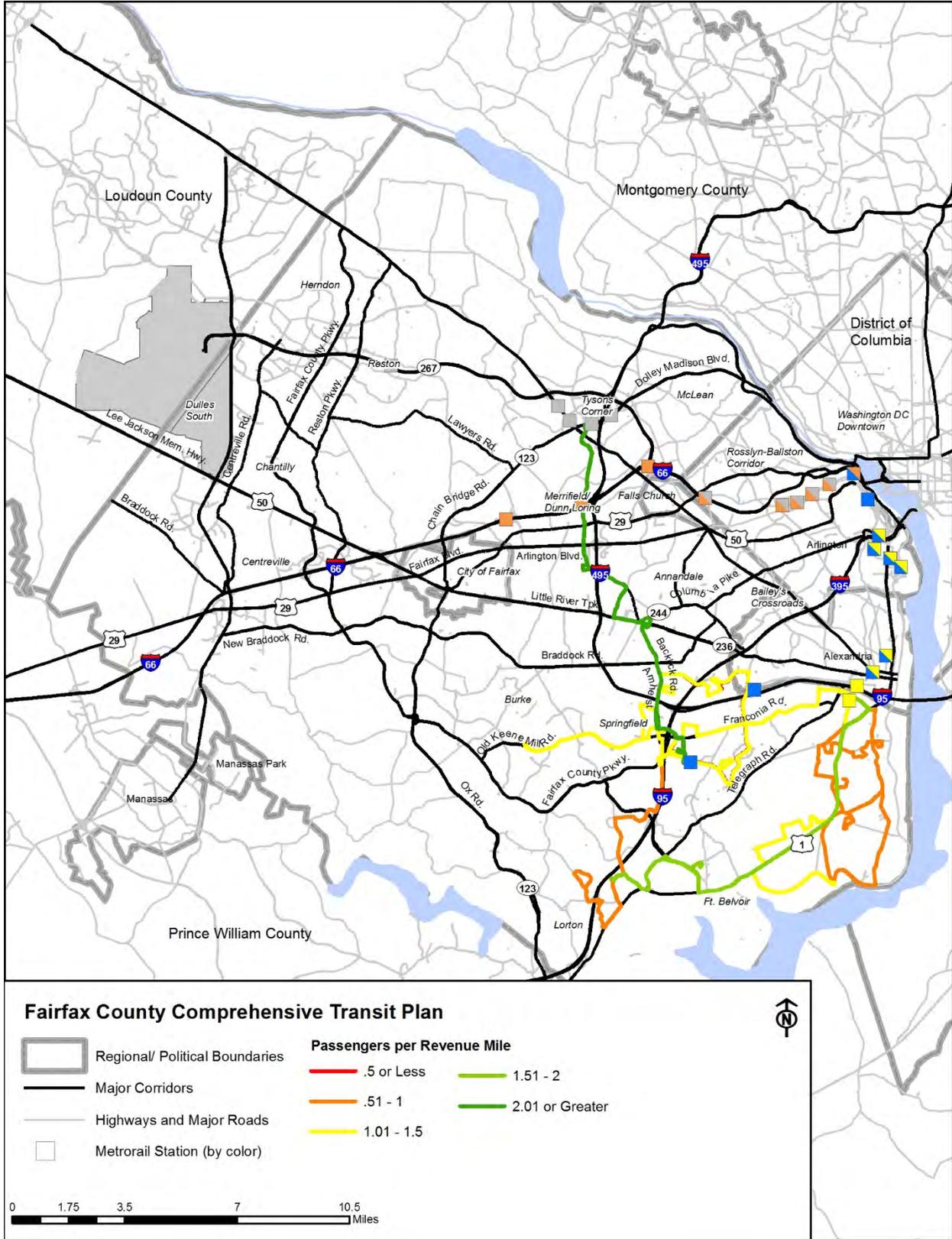
*Data for Fiscal Year 2013*

**Figure I-13: Weekday Passengers per Revenue Mile for South and West Service Areas**

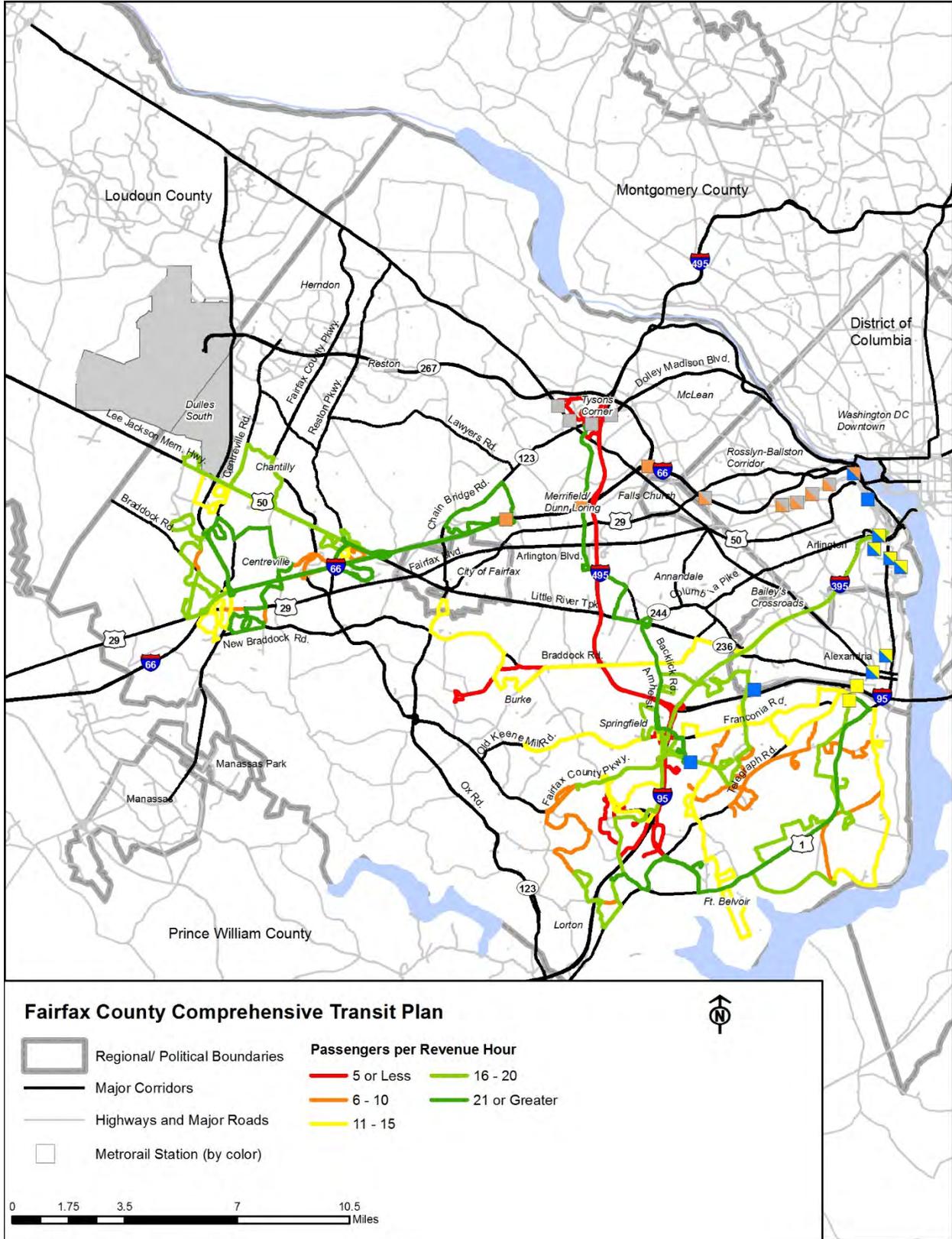




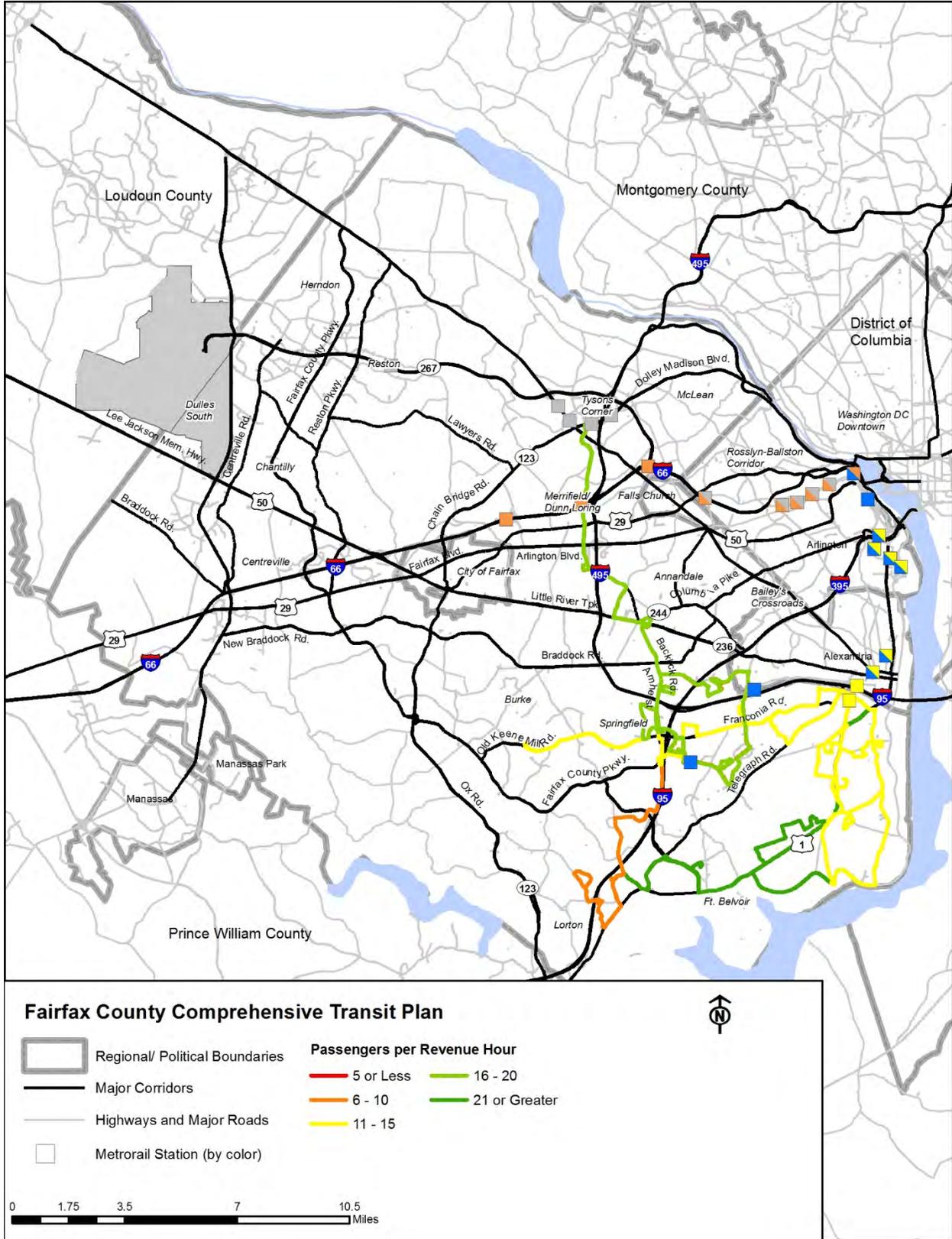
**Figure I-15: Sunday Passengers per Revenue Mile for South and West Service Areas**



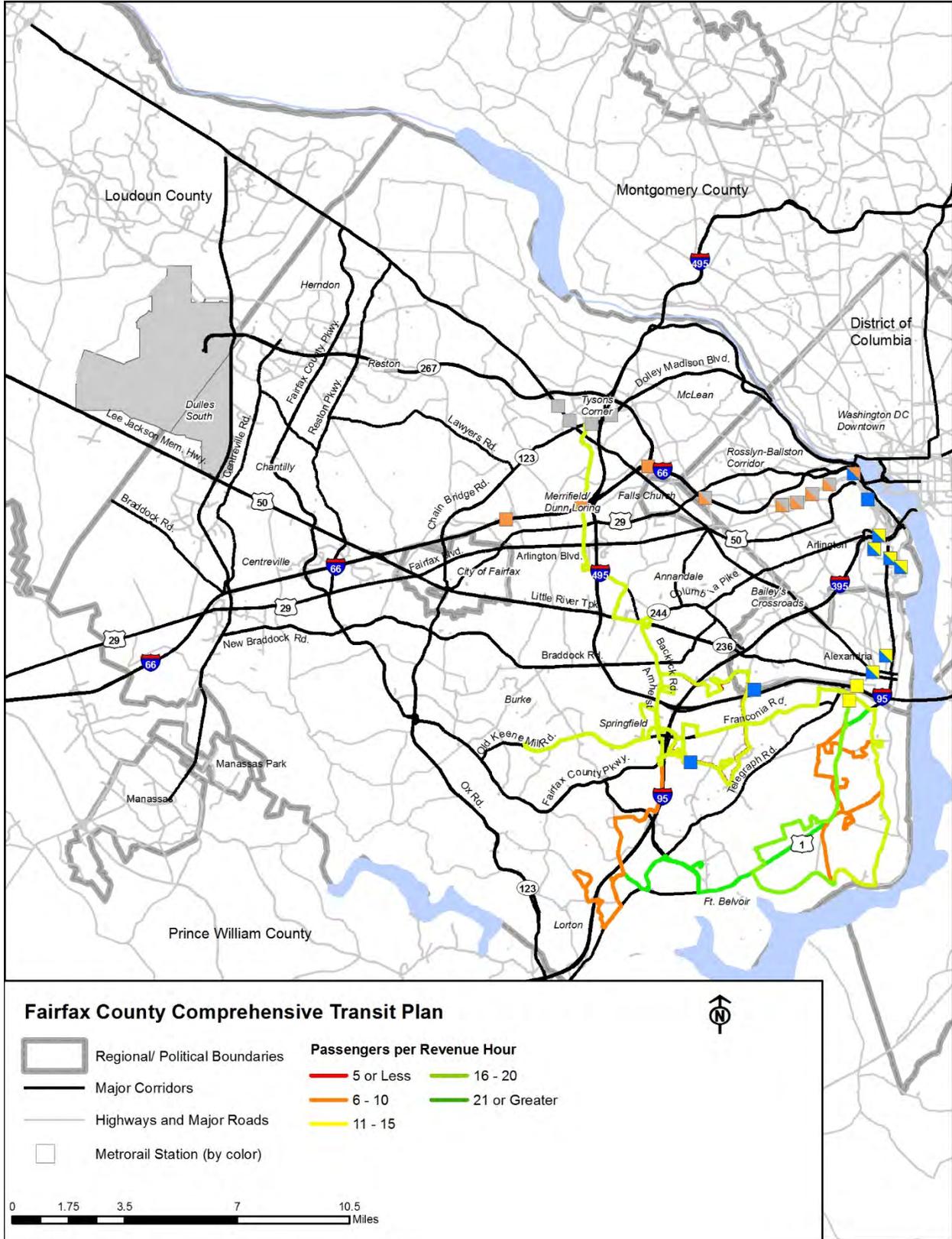
**Figure I-16: Weekday Passengers per Revenue Hour for South and West Service Areas**



**Figure I-17: Saturday Passengers per Revenue Hour for South and West Service Areas**

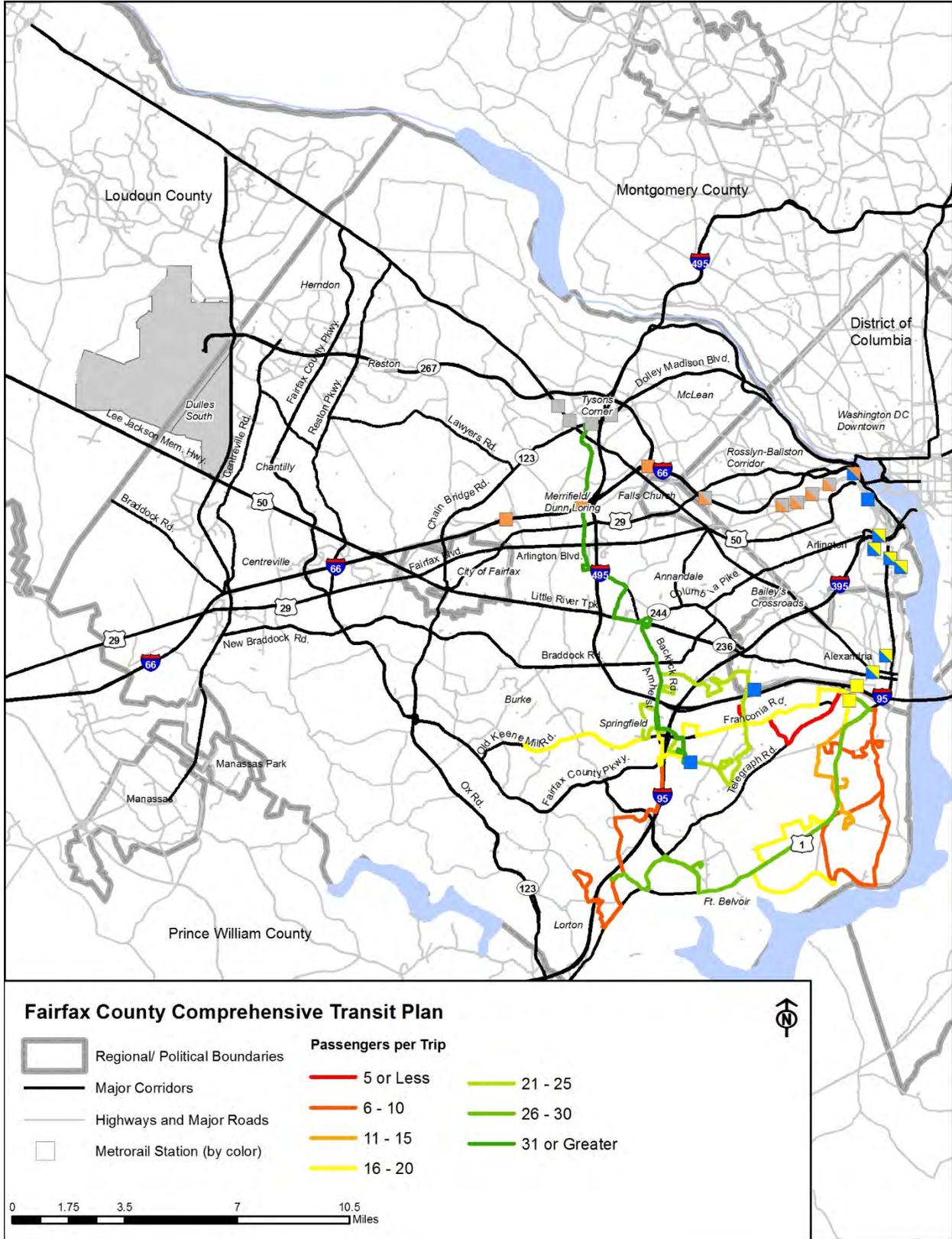


**Figure I-18: Sunday Passengers per Revenue Hour for South and West Service Areas**





**Figure I-20: Saturday Passengers per Trip for South and West Service Areas**



**Figure I-21: Sunday Passengers per Trip for South and West Service Areas**

